

PULP & PAPER INDUSTRY

JUNE, 1945

"The Cellulose Age"
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Vol. 19 • No. 6



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HE'S READY—If desperate Japs resort to gas. His mask has cellulose parts. His protective cover contains enough cellophane to wrap 1450 packs of cigarettes... See Page 11.



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Vol. 19

"The Cellulose Age"

No. 6

JUNE • 1945



The Management Journal
Covering North America's
Wood Pulp, Paper and
Cellulose Industries

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A SERVICE TO INDUSTRY

Editorials

LONG ago the Bulkley, Dunton organization integrated with its intimate knowledge of distribution and merchandising a staff of men thoroughly grounded in manufacture and research. The contributions of the organization to the pulp and paper industry, and therefore to all industry and business, are known throughout the world.

In more recent years it has undertaken other steps on behalf of progress, always with due regard for the traditions and customs of the industry, and always with a conservatism wholly in keeping with its business reputation. A current instance is its nation-wide poll to determine the wishes of the paper and graphic arts industry with regard to the proposed simplified standard base for all paper and board. As the reader knows, there has been considerable discussion pro and con, with the negative side perhaps the more articulate. But no individual or organization had been certain, until now, as to the majority opinion about an archaic method of size and weight computation as opposed to a uniform standard based on the decimal system.

Encouraged by reactions to some articles written by its Mr. George G. Cobean in the printing journals, the Bulkley, Dunton organization decided to conduct a national poll. Hundreds of manufacturers and users, including many of the largest producers and consumers, responded. The results, described in this issue of PULP & PAPER INDUSTRY, are astonishing even to the most hopeful proponents of the change (See page 36).

This poll is the first practical step in a movement which inevitably will lead to simplification.

HOW MUCH WOOD IS THERE?

AMAZING—staggering . . . Such words do not even adequately describe actual figures on the amounts of wood in North America which go to waste or fail to serve any useful commercial purpose.

The problem is not only one of scientific research and experiment, in the development of products, but is also one of finding markets in a post-war world which promises to be highly competitive for the woods-utilizing industries.

However, it is instructive to consider these figures which President Wilson Compton of Washington State College (formerly of the National Lumber and Mfgs. Assn.), offers:

"In woods operations throughout the United States, large and small, there is annually a volume of between 50 and 60 million tons of wood which is not now utilized for any important purpose. Much of it is not used at all. This is, of course, an adventure in astronomical statistics, but this amount of so-called 'wood waste,' if it were converted by present known and proven processes, would produce 33 million tons of wood sugar, which is as much as the present world total production of sugar of all kinds from all sources. Or it would yield over 3 billion gallons of alcohol, thrice our present national alcohol production for all purposes. Or it would provide nearly 10 million tons of feeding yeast sufficient for the livestock of this country and Europe combined. And it would provide 20 million tons of lignin which, if it can not be used in the production of perfumes, extracts, water purifiers and the like, can at least be used, as it has been used on a large scale in Europe as a road binder or a soil fertilizer or, perhaps, a glue."



SWEDISH PULP--It's Coming But How Much Depends on Inducement

EVERYBODY in the industry knew that Sweden would be ready when V-E Day came—and no surprise was manifested when, last month, it was announced that 1,200,000 tons of cellulose could be shipped to the United States in a 12-month period—but, presumably, for a price. One thing no longer in the way, according to representatives of Swedish exporters, was the problem of clearing the Skagerrak of mines, but there was also the question of getting a concession from the U. S. Office of Price Administration.

Despite being turned down by the OPA last month on this question, renewed efforts were being made for a higher price.

With mines quickly cleared by the Swedish Navy, the first pulp to leave Sweden for United States mills since the summer of 1919—six years ago—left the port of Goeteborg in a Swedish ship on June 14.

On June 15, New York shipping circles learned that only 30 ships will be allowed to carry Swedish pulp and iron ore to the U. S. during July-Aug.-Sept. If half carried ore, the rest could bring only about 130,000 tons of pulp. Under pressure, Sweden surrendered control of her shipping to the Allied Shipping Pool for the duration and six months.

OPA reportedly has no idea of changing its decision against a higher ceiling for the Swedes. But it has proposed maximum absorption of inland freight by the buyer of Swedish pulp. This is similar to a Canadian pulp arrangement.

Swedish pulp also was on the high seas bound for other destinations—Portugal, the Argentine and Great Britain. Those countries were naturally showing no inclination to consider U. S. OPA domestic ceilings in dealing with the Swedes, and while representatives of the latter would not or could not reveal the price to Britain they did state that it "represented a considerable higher net gain to Swedish producers" than is possible currently in the U. S. The magazine TIME published a labeled rumor that the British price "would net the pulp exporters \$10 a ton more than they could make by selling in the U.S."

American mills are said to have made reservations for about 900,000

G. P. "GUS" GENBERG, in charge of dissolving pulp development for Cellulose Sales Co., 250 Park Ave., New York, who sailed for Sweden on June 7 after touring North and South America.



tons. Last year the British signed contracts for delivery of 275,000 tons of cellulose and 100,000 tons of mechanical pulp, and the higher-than-U. S. price indicates a willingness to do further business now.

Revised Freight Rate

Two all-important factors were not officially jelled as this issue went to press, but one—a revised freight rate—was pretty definitely in the picture. Swedish ship owners apparently have agreed to cut their transportation charges from \$12.50 to \$8.00 from three loading points to one discharge point (locations not decided) with an additional charge of 50c per ton for an additional point of discharge.

The other factor, the definite allocation of ships, found WSA officials with no official word, but almost all sources believed that bottoms (probably from the Baltic) would be available to start the first shipments. WSA had not yet received official approval of the rate decision from the shipping pool headquarters at London, but the situation was more than hopeful.

The decrease in freight rate may eliminate the need for any further action on the part of OPA, as through the \$8.00 rate the Swedes would receive approximately the same advantage as would have been obtained had OPA softened under their request for a lifted price.

Qualities Uncertain

Sweden has about 700,000 tons of cellulose in stock, and at least 100,000 tons of this are in vessels ready for shipment or already outward bound. As nearly as can be ascertained, about 25% of the Swedish pulp is bleached. At this stage, nobody in the U. S. knows for a dead

certainly what divisions of grades and quality are represented in the Swedish pulp available. It is known, however, that the Swedish cellulose industry has expanded about as far as the supplies of domestic raw materials permit, and the progress made during the war has been chiefly in quality.

In 1943 and 1944 the Swedish pulp mills used only about one-third of their capacity. The production capacity is, at a minimum, 225,000 tons monthly, not including production for domestic use. Thus there is good reason to believe that Sweden will be able to meet all export requirements, even if its cellulose industry should not be able to attain full capacity immediately. Although the war years saw a good deal of conversion to wood as fuel, and although hydroelectric power is a big factor in Sweden's industries, there is still a definite need for coal. "Serious but not insurmountable" is the description of the coal problem by one Swedish representative.

However, a news dispatch from Stockholm through the official Swedish agency, makes this analysis of the fuel shortage:

"The lack of fuel constitutes the most complicated of the many economic problems Sweden is faced with after five and a half years of war, which has increasingly affected the country's economy owing to the reduction and final stoppage of imports. At present the country is threatened by a real fuel crisis. If imports are not resumed, only 1,800,000 tons of coal and coke will be available during the next 'fuel year,' beginning July 1. This represents not much more than one-fifth of Sweden's annual coal imports in peacetime. However, everything is being done in order to obtain coal as soon as possible. In the meantime Sweden is more than ever before in modern times dependent on its domestic resources, foremost among which are its large forests and its well developed water power system."

Incidentally, the Swedish pulp and paper industry is by far the biggest industrial user of coal, consuming 1,300,000 tons in 1939, in which year Sweden imported 8,720,000 tons.

Raw materials not plentiful in Sweden of these supplies many.

There seems Swedish pulp market in the cellulose industry seems unlikely. Writers are suggest many countries paper shortage there are not over-larg aid in the sound the market.

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Raw materials for bleaching are not plentiful in Sweden, and many of these supplies came from Germany.

There seems no prospect that Swedish pulp could depress the market in the near future even if the cellulose industry should attain full capacity immediately—and that seems unlikely. Well-informed quarters are suggesting that with so many countries suffering from a paper shortage the Swedish reserves are not over-large and will even aid in the sound development of the market.

Swedish Exporters

The leading Swedish exporters of cellulose include the following: **Swedish Cellulose Company** (Svenska Cellulosa A. B.) the largest cellulose concern there. The total announced production of the company it represents (including Bergvik & Åla; Kramfors; Skonvik; and Östrand) is sulphite paper pulp, 250,000 tons; viscose pulp, 110,000 tons; and sulphate pulp, 350,000 tons. (In behalf of this company's sales subsidiary, G. P. Genberg spent many months touring North and South America. He sailed for Sweden June 7.)

Mo & Domsjö Company. Production capacity: 125,000 tons rayon and sulphite pulp, and 90,000 tons of sulphate. The company's production of cellulose is sold through North Swedish Mills Incorporated (A. B. Nordsvenska Bruk) which also serves as a sales office for other mills.

Korsnäs Company (Korsnäs Sagsverks A. B.) whose annual capacity is 70,000 tons of sulphite pulp and 38,000 tons of sulphate. (It has just been announced that Gösta Hall, who toured the U. S. as technical director last year, has been promoted to sales manager of this company.)

Wifstavarf Company, 70,000 tons of sulphite cellulose and 30,000 tons of sulphate.

Stora Kopparberg Company (Stora Kopparbergs Bergslags A. B.) Sweden's oldest steel and forest industry concern, owns the Skutskar Pulp Mills (Skutskars Fabriker) with an annual production of 50,000 tons extra strong bleached sulphate cellulose and 30,000 tons of other pulp.

Kopparfors Company, an annual production of 40,000 tons strong sulphate cellulose. The company also owns the Storvik Sulphite Company, yearly production about 40,000 tons of sulphite pulp.

Iggesund Company (A. B. Iggesunds Bruk) with an annual production of 50,000 tons sulphite and

Our Cover Picture--

• illustrates the extensive use of wood pulp products for military purposes. When peace comes, improved cellulose plastic products made from wood pulp will become available to civilians.

All gas masks are made with valves, lenses, diaphragms and Y-tubes of cellulose acetate plastic. This improved plastic is one of the most promising postwar fields for wood pulp. The soldier on our cover sees through a polished cellulose acetate sheet over his eyes. "Flutter valves" of his mask must respond to slightest exhalation pressure and respond instantly to inhalation by sealing. These valves have non-corrosive cellulose grills and seats.

Celanese Celluloid Corp.'s Lumarith, based on Hercules Powder Co.'s cellulose acetate flake, is used to make these mask parts.

Cellulose acetate plastics are economical, easily moldable, and can be turned, sawed, filed, drilled, nailed and joined with adhesives.

Cellophane—also made with wood pulp—is the material of the protective hood shown in the cover picture. Military demands for cellophane for these hoods, for lunch boxes, powder bags, etc., reached new high all-time record levels during early 1945.

E. I. du Pont de Nemours & Co., Cellophane Div., Wilmington (98), Del., cooperated with the U. S. Army's Chemical Warfare Service in developing this hood. The top of the hood is transparent for vision. It is folded into a small packet and carried in the gas mask bag. The army found cellophane to be an ideal lightweight gas-resistant flexible material for this purpose. Its chief reason for developing such a hood was the record of the last war, which revealed many casualties from contact with gas, as well as from inhalation.

A new type of flameproof and extra-effective moisture-proof cellophane was developed in this war to wrap propellant powder used in 60-mm and 81-mm mortars. It had been difficult to keep this powder dry in the field until the Ordnance department developed this package, heat-sealed at all edges. Now its use in the Pacific is increasing, with the increasing use of mortars. Mortar shells contain their own explosive but are fired by this powder. This is accomplished by attaching the packet to the "fine" of the shell.

This new cellophane is expected to serve many peacetime uses.

Other standard equipment for troops includes a new tough two-ply cellophane lunch box, which opens up many postwar possibilities for food industries. Many tons of it have been produced at Sylvania Industrial Corp., Fredericksburg, Va.

Extension of self-service and the frozen food industry—with capacity already treble pre-war—and new sales techniques are opening up vast fields after the war for cellophane, paperboard and treated papers.

The du Pont organization lists 47 types of viscose cellophane, many developed at its Buffalo, N. Y., laboratory.

Another development is the spraying of cellulose on paper to preserve it.

Still another—a mixture of wood cellulose and synthetic rubber to make material like leather.

This is truly the Cellulose Age.

rayon pulp and 35,000 tons of sulphate pulp.

Billrud Company, 90,000 tons of viscose pulp, 25,000 tons sulphite and 50,000 tons sulphate pulp. Before the war most of this company's production of viscose went to Italy.

In 1939 cellulose accounted for 18.3 per cent of the value of Swedish exports, iron ore holding second place with 12.3 and lumber third with seven per cent. The total of cellulose exported by Sweden that year was 2,025,000 tons of which 1,217,000 tons were sulphite pulp and 808,000 tons sulphate. No less than 833,000 tons of cellulose almost equally divided on sulphite and sulphate, were shipped to the U. S. Next in importance as a consumer of Swedish cellulose came Great Britain, which bought 440,000 tons. The United Kingdom, however, also purchased large quantities of Swedish mechanical pulp.

As an initial move in the present seller's market the Swedes asked a price higher than the OPA ceiling and when this happened a PULP &

PAPER INDUSTRY editor went to Washington, D. C., to catch the reaction there after interviewing domestic experts and Swedish representatives in New York.

Official Attitude

To begin, one well informed WPB official said, "There certainly is no official 'attitude' or 'feeling' toward Sweden within the War Production Board other than a sincere desire that the U. S. should receive its fair share of whatever Swedish wood pulp may be available. The War Production Board has a definite interest in the Swedish pulp from the supply standpoint, but the question of prices and shipping are matters for the OPA and the War Shipping Administration."

These questions are touched upon later in this discussion, but the WPB official quote above made one additional significant comment: "In certain quarters there does appear to exist a misunderstanding as to the current activities of the various government agencies with respect to the importation of Scandinavian

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Official Moves

The Department of Commerce recognizes Sweden as the only country outside of Canada in a position to supply significant quantities of pulp during the remainder of 1945. "The Swedish wood pulp production plans for the next year may be affected by the critical fuel shortage confronting all Swedish industry, particularly with respect to coal," an official said. "It is stated that Swedish pulp mills have been entirely converted to domestic fuel, particularly fuel wood, during the war. Stocks of pulpwood are reported to be unusually large and sufficient for a year's production. Notwithstanding the indefinite status of the Swedish pulp industry for the next 12 months, there is evidence to justify an expectancy of a large tonnage of pulp available to the U. S. and other world countries—probably enough to meet the deficit in the U. S. and also to meet the smaller than pre-war needs of many

former importing nations whose industry and economy have been disrupted by the war—as soon as adequate shipping space is made available."

In the opinion of Commerce officials, the most important factor for the next few months will be provisions for ocean shipping space to move the Swedish pulp. The Forest Products Bureau of WPB has taken active steps in this direction through the War Shipping Administration and the U. S. Maritime Authority.

Countries represented in the U. S. Maritime Authority are United States, United Kingdom, Norway, Netherlands, France, Belgium, Canada, Greece, Poland, India, and Australia. The governments of these countries have accepted as a common responsibility the provision of shipping for military and other tasks necessary for, and arising out of, the completion of the war in Europe and the Far East, and also

for the supplying of liberated areas as well as the U. S. generally and the territories under their authority until six months after the termination of the Japanese war. Although Sweden is not mentioned as a member of the USMA, she is of course affected directly.

Admiral E. S. Land, administrator of the WSA, some weeks ago advised Congress that adequate shipping would be available to move Swedish pulp. Incidentally, he revealed that 23,000 tons of pulpwood have been imported in eastern U. S. from Russia on ships returning via the northern route.

The WPB newspaper advisory committee expressed the conviction that Swedish pulp and paper would seek free markets, rather than come to the U. S. in any large quantities. It pointed out, however, that this would indirectly relieve the critical pulp situation in the U. S. and the entire world, for that matter.

Richardson Is New Chief of WPB Paper Division As Its "Unwinding Process" Gets Under Way

Grant Richardson has succeeded Walter Wilcox as director of the Paper Division, Forest Products Bureau, War Production Board. For the past month he has been acting as an assistant to Mr. Wilcox who originally came to WPB to stay for six months and who remained for eight. It is understood that the latter will still be available in an advisory capacity, although he returns to his former position as assistant to George Olmsted, Jr., president of S. D. Warren, 89 Broad St., Boston.

Mr. Richardson is on leave of absence as district sales manager for the eastern territory for Hammermill Paper Co., Erie, Pa., and the Grays Harbor Pulp and Paper Co., Hoquiam, Wash. Except for services in World War I and a short period with Marconi Wireless he has spent all of his adult life in the paper game. He has been with Hammermill for 31 years.

He was born in Baltimore, Md., and is a member of the Sons of the American Revolution. He is a 32nd degree Mason, a member of the Shrine, a Knight Templar, and is active in the American Legion. He was with Marconi for two years when World War I broke out and he saw action in France with the Army Signal Corps. Returning to civilian life, he entered the paper business.

"After a month's association in Washington, I am convinced that there is nowhere a finer, more hard working and more sincere group of men and women than in the Paper Division of WPB," Mr. Richardson told this magazine. "It's going to be a pleasure, too, to work with the other agencies, for I have found them equally sincere and cooperative. Although what we do from now on might be termed 'an unwinding process' there is of course plenty to be done. I am fortunate in



GRANT RICHARDSON, of Hammermill Paper Co. and Grays Harbor Pulp & Paper Co., who is the new Director of the Paper Division, Forest Products Bureau, WPB.

following the excellent work of my various predecessors."

New Canadian Timber Controller

D. D. Rosenberry, former assistant timber controller for Canada at Vancouver, B. C., has been appointed timber controller for all Canada, with offices at Ottawa, succeeding A. H. Williamson, who has resigned to resume private business on the coast.

The Timber Control is in charge, among other things, of timber exports to the U. S. mills.

Montana Mills Planned But Idaho Project Is Postponed

A 4,000-word prospectus has been issued by the Idaho-Montana Pulp & Paper Co., which plans pulp and paper mills at Polson and Columbia Falls, Mont., and possibly another at a future time at Couer d'Alene, Idaho, using coniferous trees of the region.

It plans "wood processing plants" at Polson, including a 100-ton (daily) unbleached sulphite pulp mill and a 50-ton newsprint mill. Engineering on the Polson project was said to have been completed in 1942 by L. A. DeGuere, Wisconsin Rapids, Wis.

Also a 100-ton mechanical pulp mill at Columbia Falls is planned.

Other units will be designed "to dovetail with the pulp mills" and, as the notice states, "with the thought in mind of housing sawmills with capacity of 50,000 ft. per shift, a plywood plant and other space to build and make up a completely modern factory."

The Idaho mill idea, which had been discussed for some time by this interest, apparently has been indefinitely postponed. However, Mr. DeGuere is assigned to make a survey for a possible 150-ton mill at that site.

Resources — the timber, a nearby large hydroelectric plant, availability of Flathead Lake for log storage and transportation, the possibility of markets in the Middle West, etc. — are discussed.

Tom G. Taylor, promoter and organizer of the venture, has offices at 304 Wilma Bldg., Missoula, Mont.

The prospectus announces an offering of common stock with six per cent first mortgage bonds, but only to bona fide residents of Montana, because of non-registration with the SEC.

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U. S. MILLS SPEND \$250,000 On Stream Improvement Research

THE National Council for Stream Improvement of the Pulp, Paper and Paperboard Industries, Inc., passed its first birthday on June 1 with five research programs already under way and a sixth one being in the negotiation stage.

The affiliated industries of the United States are spending this year over one-quarter of a million dollars in organized and cooperative research aiming to utilize or neutralize mill effluent, Russell L. Winget, executive secretary of the council, told PULP & PAPER INDUSTRY.

This includes the \$60,000 which Washington state mills are contributing this year to the University of Washington's industry-financed five-year program of research and similar contributions of the Wisconsin industry in that state. It does include work done and financed by individual mills.

During the past two months, Mr. Winget and Dr. Harry W. Gehm, technical advisor to the council, have told meetings in New Orleans (Apr. 18), Cincinnati (May 2), Lynchburg, Va. (May 18) and Seattle (June 8) of the first year's accomplishments in setting up projects.

These meetings were presided over by the regional chairmen—in New Orleans by Maj. J. H. Friend, vice president International Paper Co., Southern Kraft Div.; in Cincinnati by E. F. Bearce, vice president of Chillicothe Paper Co.; in Lynchburg by Hugh Camp, president of Chesapeake Camp Corp.; and in Seattle by Robert S. Wertheimer, vice president, Longview Fibre Co.

The council's principal foundation at Mellon Institute now has considerable equipment and a staff of four working under direction of Dr. George Beal, assistant director of the institute. This group is not restricted in its operation and has what might be described as a "roving commission." It is surveying bibliography and has done specific work on de-inking and bleach liquors.

The specific projects outlined by Mr. Winget and Dr. Gehm are:

1. An evaluation of this industry's responsibility and liability in relation to municipalities and other industries using streams, being made at Manhattan College by Prof. Clarence Velz, authority on stream analysis computation.

2. Study of aquatic biology and effects of all types of pulp, paper and board industries on fish life at Institute of Paper Chemistry, Appleton, Wis., under direction of Dr. Willis Van Horne, aquatic biologist.

3. A coordinated study by the University of Michigan, Kalamazoo College and Mellon Institute to find methods for treating de-inking wastes and develop full scale equipment for the purpose.

4. Carrying on of two sulphite effluent studies in Wisconsin and the coordination of these projects with similar and parallel activities at the University of Washington in Seattle. The council has taken over from the Wisconsin industry the direction of the trickling filter

process for treatment of sulphite wastes in the pilot plant at the Interlake mill in Appleton, Wis., and also is conducting the development of the river aeration process on the Flambeau River in Wisconsin.

5. Dr. William Rudolf's organization at Rutgers University has been retained to make an investigation of white water processing. Dr. Rudolf is an authority on industrial waste and sewage treatment.

6. The council is negotiating with Purdue University for a possible project to study treatments for strawboard mill effluent that will render them suitable for direct discharge into streams.

Mr. Winget reported that 75-80% of all U. S. mills now are affiliated with the council and within a few months it is hoped that membership in all regions will be up to 85-90%. Membership in the Pacific Coast and the South already exceeds 90%.

New Washington State Commission Gets Together With Industry

Frankly surprised to learn how much the pulp and paper industry of the United States is doing and spending in an attempt to solve stream problems were the members of the newly organized Washington State Pollution Control Commission, who were guests at the Pacific Coast regional meeting of the National Council for Stream Improvement in Seattle June 8.

Members of the commission, headed by the new chairman, Jack Taylor, former state land commissioner, arrived at the Olympic Hotel during the afternoon session and were made welcome by Chairman Robert S. Wertheimer, vice president and manager of Longview Fibre Co. Most members of the six-man commission took advantage of the invitation.

After the New York representatives of the Council had outlined the elaborate and costly programs of research which the industry is carrying out in various localities in an attempt to solve stream problems, the commissioners were invited to comment.

"This is not a 'crackpot' commission," said Mr. Taylor. "We know you have your problems. We know it has been impossible to get the materials to do all the things you wish to do. We expect cooperation and we want to work with you in a harmonious way."

He and other commissioners expressed surprise at activities of the council, admitting freely that they did not realize

the industry was doing so much and at least one did not even know of the existence of the council. However, there were references to "cracking the whip" over industries that did not fall in line and one commissioner suggested smaller mills were not doing as much as the larger ones. Mr. Wertheimer called his attention to the fact that 100% of Washington state mills were contributing to the University of Washington research program on a pro rata basis, according to their tonnage production.

Mr. Taylor described the new cooking process and burning of wastes planned at Shelton, Wash., by Rayonier Incorporated and the magnesia base postwar cooking program of Weyerhaeuser Timber Co. as moves which eventually may prove helpful.

Mr. Taylor announced appointment of Dr. John Fasten, 58, head of the zoology department, Oregon State College, as chief biologist for the commission. Born in Austria, Dr. Fasten taught zoology at the University of Washington from 1914 to 1921 when he went to OAC. He has served other official bodies as authority on fish and oyster propagation and conservation.

State Sen. Barney Jackson, of Tacoma, spearhead of frequent pollution legislative campaigns in past years, who also holds the position of publicity manager for the fisheries department (whose di-

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rector is one of the members of the pol-
lution commission), asserted that pro-
gress in solving of the problem had been
made largely through legislative action.

A Conciliatory Talk

Mr. Taylor, a veteran of state political
campaigns in which he had adopted the
name "Progressive" Jack Taylor, made a
conciliatory talk.

In reference to the official name of his
body—the Pollution Control Commission
—he said: "The name of your national
organization, the Council for Stream Im-
provement, is much more acceptable to
me than the name that we have been
given" (PULP & PAPER INDUSTRY
has in the past stressed that the word
"pollution" is a misnomer in reference
to sulphite effluent.)

He said the commission, which has
headquarters in Olympia, also would
maintain a technical office in Bagley
Hall, University of Washington, and in-
tended to make use of University labora-
tories and resources and to require as-
sistance of University chemists and tech-
nicians, as provided in Section 16 of
the 1945 law creating the commission
(Page 27, March 1945, PULP & PAPER
INDUSTRY). He added that the com-
mission plans to hire the best sanitary
engineer and best technical men avail-
able. However, he and other commis-
sion members expressed the belief that
their \$125,000 appropriation was in-
adequate.

The first project of the commission,
he said, would be an "inventory" of the
state dividing it into 30 drainage areas,
with full data on types of wastes, sew-
age plants, city populations served, what
cities and industries have done to con-
trol the situation, etc.

A representative of Bonneville Dam
Administration was asked what that gov-
ernment agency intended to do to pro-
tect fisheries on the Columbia River.
Dr. Gehm stressed that Tennessee Valley
Authority has been cooperative in these
matters and "done much good work."

Bag Plant Will Be Built In Arkansas

As the result of the production of
kraft paper in the Crossett Paper Mills,
a long-term lease of six and a half acres
of land directly north of the mill finish-
ing room at Crossett, Ark., has been
made to Chase Bag Co. of New York
City. Chase will build a paper bag fac-
tory, using paper made by Crossett.

Construction of the plant will begin
immediately. Specifications call for a one-
story brick building with dimensions of
about 175 by 400 feet. An office build-
ing and water tank will be constructed
outside the main building and the large
area leased will permit future expansion.

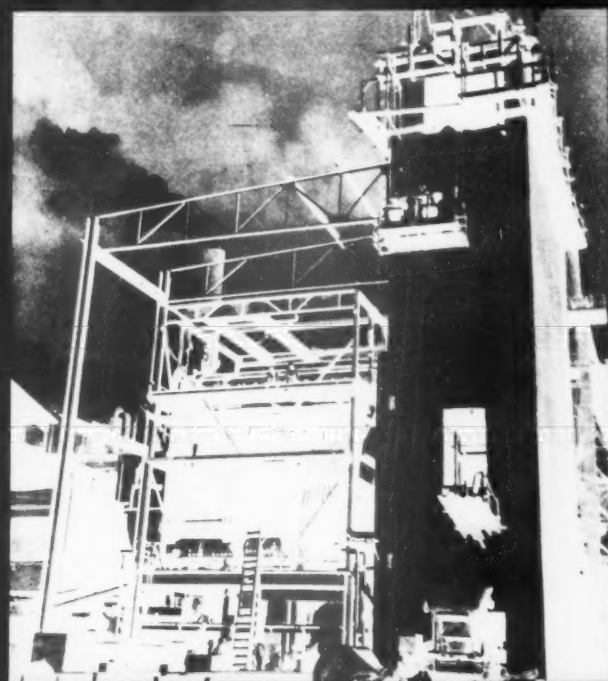
The concern will use approximately
10,000 tons of paper per year, and will
employ from 30 to 40 persons.

Large New Gair Plant

Robert Gair Co., Inc., will soon add to
its list of mills, N. F. Greenway, first
vice president, told PULP & PAPER IN-
DUSTRY last month. He said a 472-
acre site had been purchased at Bing-
hampton, N. Y., where a sizeable plant
will be built. Paper and corrugated boxes
and other board and paper products
will be produced.

Gair already has plants in Massachu-
setts, New York state, New Jersey, Con-
necticut and Canada, in addition to car-
ton and container fabricating plants in
U. S. and Canada.

New Power Plant for Savannah Mill



The new boiler, with capacity of 200,000 lbs. of steam per hour is part of new
power facilities at the Savannah, Ga., plant of Union Bag and Paper Corp., which
will boost the plant's average production to 1,000 tons of finished product per day.

G. W. E. Nicholson is resident manager at the Savannah Mill, one of the largest
in the world. J. T. Harrison is manager of the bag division; and T. T. Dunn is
manager of the pulp and paper division. The plant is at present making paper,
board and wrapping; and drying pulp for lend-lease and for other mills. It is also a
big producer of paper bags, including multiwall and specialty grades.

The Rust Engineering Co., Pittsburgh, Pa., designed and installed the plant's new
power plant, which will be put in operation this year. The B & W boiler pictured,
with twice the capacity of any other power boiler in the mill, is rated at 200,000
pounds of steam per hour at 450 pounds pressure per square inch. The tall coal
bin at the right, also new, has a capacity of 480 tons of coal, representing two days'
supply, as approximately 10 tons per hour are required to keep the massive boiler at
rating.

The new boiler is the ninth fuel-fired power boiler at the mill, the other units con-
sisting of five B & W oil fired power boilers, two B & W combined bark or oil
fired boilers, and one B & W combined oil or pulverized fuel fired. One of the
oil fired boilers is being converted to burn bark to consume the additional refuse fuel
that will be available when the mill is producing 1,000 tons of finished product
daily. A complete new water treating plant to serve the nine fuel-fired boilers and
nine recovery units, is also being installed by Rust, in addition to a new 7,500-K.W.
turbo generator.

TAPPI Needs 1927 Issue

Here's a chance to come to the aid
of TAPPI.

Its library file of this magazine and
its predecessor, Pacific PULP & PAPER
INDUSTRY, is complete except for one
issue—Vol. 1, No. 4, Pacific PULP &
PAPER INDUSTRY (which is the
May, 1927, issue).

R. G. Macdonald, secretary, Technical
Assn. of the Pulp and Paper Industry,
122 East 42nd St., New York City (17),
would be pleased to hear from anyone
who has a copy of that issue to spare.

\$12,000,000 Board Mill For South Carolina

A \$12,000,000 paperboard mill will
be constructed in the Santee-Cooper Hy-
droelectric project area in Orangeburg
County, S. C. General Manager R. M.
Jefferies of the South Carolina Public
Service Authority, has announced.

A subsidiary of Robert Gair, Inc., New
York City, the plant will manufacture
paperboard for shipping containers.

The mill, with an estimated initial
employment of 650, will have an annual
payroll of approximately \$1,300,000,
Mr. Jefferies said.

A PROGRESS REPORT On Eastern Canadian Mill Projects

EASTERN CANADA, and particularly northern Ontario, continues to be one of the busiest spots on the continent's pulp and paper map.

Several large-scale projects involving the expenditure of some \$50,000,000 are now well under way, and there is hardly a major company in the industry that hasn't got plans for expansion at least in the blueprint stage. With industry controls gradually relaxing, many companies are now obtaining delivery of equipment that was hard if not impossible to get a few months ago.

The trend of new Eastern Canadian development, generally speaking, has been towards increased production of both bleached and unbleached sulphate and improvement in the quality of production of various paper grades. There has been no sign of increasing newsprint capacity anywhere: although several newsprint companies are taking steps to install more modern and efficient equipment.

Kapuskasing

Of the various new, big enterprises currently under way in Ontario, Kimberly-Clark's \$1,000,000 crepe wadding mill is probably the furthest advanced. This is at Kapuskasing, where Spruce Falls Power & Paper Co., jointly owned by Kimberly-Clark and the New York Times operates. First unit of the bleaching plant is now in use.

Red Rock

The Red Rock unbleached kraft mill of Brompton Pulp & Paper Co., will probably be in production by October 1, according to General Manager P. H. Scowen, and a personal visit to the site by a PULP AND PAPER INDUSTRY editor a few days ago confirmed the impression that a fast pace was being maintained in converting the former Lake Sulphite Co. plant to its new role as sulphate producer. Liner board will also be manufactured there.

Marathon

There have been some setbacks in construction at Marathon, Ont., where Marathon Paper Mills of Canada is proceeding with the construction of an entirely new mill



JOHN R. LESLIE, appointed Controller of Howard Smith Paper Mills of Canada, operators of three mills. His office, 407 McGill St., Montreal (1). Is also Treasurer-Controller of Alliance Paper Mills and Don Valley Paper Co.

and townsite. The company expects to be in production by May, 1946, with an output of approximately 250 tons of bleached sulphate pulp daily. A truly modern town is planned at Marathon where all development has been entirely new. The only predecessor of Marathon as a populated settlement was the old railroad construction camp of Peninsula, long ago abandoned.

KVP Limited

In the old newsprint town of Espanola, the progressive Kalamazoo Vegetable Parchment organization, of Michigan, is going ahead with the conversion of the paper mill formerly operated by Spanish River Paper Co. and Abitibi Power & Paper Co. By next summer, the new plant, where 225 tons of bleached sulphate pulp will be produced daily, will be in full operation. Some \$4,500,000 is being spent on reconstruction, involving an almost 100 per cent rearrangement of the old plant and erection of new buildings, and the whole project will probably cost double that amount.

Other Installations

Price Bros. is re-designing its screen room at the River Bend plant, and is installing a new grinder room at the Kenogami mill, in Quebec.

Ontario Paper Co. is installing a Flakt pulp drying machine for groundwood as well as for sulphite at its big modern Baie Comeau newsprint mill. The same company is putting in a 100-ton Flakt dryer at its Thorold, Ont., mill.

Anglo-Canadian Pulp & Paper Mills at Quebec City is installing a 100-ton Flakt dryer, too; also Great Lakes Paper Co., at Fort William, Ont., and Lake St. John Pulp & Paper Co.

Price Bros. has installed three

long log barkers at one of its Quebec mills, all manufactured by Waterous, Ltd., of Brantford.

Great Lakes Paper Co. is trying out a water-less log barker at Fort William. This takes logs up to 18-foot in lengths.

Nine new Waterous-design magazine grinders have been installed at the Price Kenogami mill. This setup has a 72-inch stone, high pressure shoes, calculated to consume 5,000 hp. Two magazine grinders, also Waterous, are going in at the Baie Comeau mill of Ontario Paper Co. Two are also scheduled for the Donnacona Paper Co. at Donnacona, Que.

New Bleach Plants

Waterous built the bleach plant which recently started to operate at Spruce Falls for Kimberly-Clark. It was engineered at Neenah, Wis., designed by Raymond P. Hill, who went to Kapuskasing to witness its initial operation. This unit, embracing new features of agitation, will be used in crepe wadding production.

Canadian International Paper Co. will soon have its new bleaching plant ready for operation at the Gatineau mill, near Ottawa. This project was launched in the latter part of 1944. When completed the sulphite pulp capacity of 180 tons a day at this mill will be interchangeable between dissolving pulp and bleached or unbleached paper pulp, as market conditions may require. This will provide increased dissolving pulp capacity and greater flexibility in operations. Total expenditure for this new installation is estimated at about \$2,000,000.

Price Bros. Paper Co. at Quebec is planning to go extensively into the production of unbleached high-grade pulp, and to that end is installing two Horton 32-foot acid accumulators at its River Bend mill, also a new knoter room and screen room with new rifiers. Price Bros. has eleven paper machine between the Kenogami and River Bend mills and production of high-grade sulphite will depend on how many machines are used for that purpose. A production of about 45,000 to 50,000 tons a year is tentatively planned.

Anglo-Canadian's plans for dry-

ing pulp and swing news grade to high bleached sulphite; the program carried by Powell River coast. A production of 1000 tons of high

Anglo-Canadian spesia Sulphite Co. Que., is installing gester to increase already has four d one is being bu Bridge Co.

Those companies exceeding now with are actuated in p that the next fe cellent marketing some cases they enced by specific ing to their own nomic status. Th are holding back the Canadian ge mulate a clearer tion taxation; ho in production costs or improv position.

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Walloe Goes As General Superintendent

Einar Walloe, sulphate superintendent Ltd., at Ocean F appointed general Marathon Paper cording to announ AND PAPER II President and Gen Anderson.

Mr. Walloe will navy engineering for Marathon's n. Ontario, and after thon to take direc

Mr. Walloe w Mills before goin has an all-round dustry.

Walker Is Su At Bucksport

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news grade to high grade un-
bleached sulphite pulp is similar to
the program carried out recently
by Powell River Co. on the west
coast. A production of about 25,
000 tons of high grade is planned.

Anglo-Canadian's subsidiary Ga-
spesia Sulphite Co. at Chandler,
Que., is installing an additional di-
gester to increase capacity. The mill
already has four digesters. The new
one is being built by Dominion
Bridge Co.

Those companies which are pro-
ceeding now with expansion plans
are actuated in part by conviction
that the next few years hold ex-
cellent marketing prospects, and in
some cases they have been influ-
enced by specific conditions apply-
ing to their own physical or eco-
nomic status. The companies that
are holding back are waiting for
the Canadian government to for-
mulate a clearer policy on corpora-
tion taxation; hoping for a decline
in production and construction
costs or improvement in woods
position.

Almost without exception every
eastern Canadian pulp and paper
operator consulted expressed op-
timism as to the immediate future
of the industry and looked for ex-
pansion along sound, constructive
lines.

Walloe Goes to Marathon As General Superintendent

Ltut Walloe, for the past nine years
sulphate superintendent for Pacific Mills,
Ltd., at Ocean Falls, B. C., has been
appointed general superintendent for
Marathon Paper Mills of Canada, ac-
cording to announcement made to PULP
AND PAPER INDUSTRY by Vice
President and General Manager Niles M.
Anderson.

Mr. Walloe will assist in the prelimi-
nary engineering program at Toronto
for Marathon's new mill at Marathon,
Ontario, and afterwards will go to Ma-
rathon to take direct charge of operations.

Mr. Walloe was with the Windsor
Mills before going to Ocean Falls and
has an all-round experience in the in-
dustry.

Walker Is Superintendent At Bucksport

George D. Bearce, general manager of
Maine Seaboard Paper Co., announces
that William J. Walker has taken up
duties as superintendent at the company
sulphite-groundwood mill at Bucksport,
Me., replacing T. E. Kloss, who recently
resigned.

Mr. Walker has been associated with
the International Paper Co. for a num-
ber of years. He was recently with the
Houshold Paper Co., Lufkin, Texas.

Hospital Sojourn for Pearl

H. I. Pearl, executive assistant, Chicka-
saw Mills, Hollingsworth & Whitney Co.,
Mobile, Ala., was in a hospital during
the past month for an operation but was
back at his duties in a short time.

Newsprint Mill Planned In Georgia, Alabama or Mississippi

The site of the newsprint plant
to be sponsored by the Southern
Newspaper Publishers' Association
will be in either Georgia, Alabama
or Mississippi, directors of that or-
ganization were told in a meeting
held May 28-29 in Atlanta, Ga. Carl
B. Short, of the Roanoke (Va.)
World-News and Times, chairman
of the SNPA newsprint committee,
told the publishers that 21 possible
sites had been studied intensely, with
narrowing of the field to the three
Southeastern states named.

Freight rates will play a very sig-
nificant role in the locations of the
plant, which will be operated by pri-
vate enterprise. The principal ob-
jective of the newsprint mill, the
second in the South, was declared
by Mr. Short to be stabilization of
supply.

Ultimately, the chairman of the
SNPA's newsprint mill committee

believes the South can support sev-
eral newsprint mills and the present
objective is to locate two of them
in the Southeast.

George F. Hardy, New York
consulting engineer, has been re-
tained by the SNPA to advise with
the newsprint committee in its ef-
forts to select the most suitable lo-
cation.

Fourteen southern states consume
approximately 400,000 tons of news-
print a year. An average mill can
produce between 50,000 and 100,000
tons annually.

The SNPA board was informed
that in addition to the many stories
that have been printed in the as-
sociation's bulletin about the pulp and
paper situation, the association in
recent months had emphasized the
importance of conservation of the
region's forests and increasing pulp-
wood production.

Southern Mill Executives Join Forest Council

H. J. MALSBERG,
FR, new Forester-
Gen. Mgr., South-
ern Pulpwood
Conservation As-
sociation 1501
First National
Bank Bldg., At-
lanta, Ga. He is
also Regional
Pulpwood Con-
sultant for Forest
Products Bureau,
War Production
Board. Graduated
from Penn State '25. Served 5 years as
Florida State Forester. His new duties
are dedicated to increasing Southern
pulpwood production.



As a result of discussions in an April
20 meeting in New Orleans of the new
Forest Industries Council, committees are
being formed in each Southern state
composed of leaders in forest product
industries as a step in effectuation of an
integrated forest policy.

In sounding the keynote of the meet-
ing, Mark L. Fleishel, Putnam Lumber
Co., Shamrock, Fla., the South's chair-
man, said:

"Permanent industries capable of pro-
ducing continuous supplies of forest
products are essential to the national wel-
fare. Having faith that private enterprise
and initiative can provide the most ef-
fective management, use, and renewal of
our nation's forests, the Forest Indus-
tries Council pledges united leadership
for betterment of America's forests, and
the attainment of continuous forest pro-
duction."

Representatives of the pulp and paper
industry who participated in the New
Orleans meeting included:

Basil E. Kenney, St. Joe Paper Co.,
St. Joe, Fla.; A. G. McArthur, Rayonier
Incorporated, Fernandina, Fla.; James H.
Allen, Florida Pulp & Paper Co., Pen-
sacola, Fla.; Peter F. Watzek, Crossett
Paper Division, Crossett Lumber Co.,
Crossett, Ark.; D. E. Cousins, Hollings-
worth & Whitney Co., Mobile, Ala.; R.
L. Thompson, Calcasieu Paper Co., Eliza-
beth, La.; R. E. Hartman, Mobile Pa-
per Mill Co., Mobile, Ala.; R. W.
Wortham, Jr., Southland Paper Mills,
Herty, Texas. Earl Porter, International
Paper Co., Southern Kraft Division, Mo-
bile, Ala.; J. C. Michaud, Southern Ad-
vance Bag & Paper Co., Hodge, La.;
Vertrees Young, Gaylord Container
Corp., Bogalusa, La.; E. W. Tinker, sec-
retary, American Paper and Pulp Assn.,
New York, N. Y.; and H. E. Brunker-
hoff, secretary, American Pulpwood
Assn., New York.

\$10,000,000 Pulp Mill Planned in Mexico

Plans for a \$10,000,000 wood pulp
and newsprint plant in Acentique, in
Southwest Mexico, on the Pacific Coast,
have been announced by Emilio Gutierrez
Roldan, director of the Mexican govern-
ment forest department.

He said a group of Mexican capital-
ists had formulated plans for the mill
and that a survey has been made of
wood supply and shipping facilities.

Wales Appointed Manager of Port Huron Mill

H. G. Wales was promoted on May 1
from technical director to mill manager
of Dunn Sulphite Paper Co., Port Hu-
ron, Mich., it is announced by Theodore
W. Dunn, president.

Mr. Wales joined the Port Huron com-
pany in 1929, after serving with Bromp-
ton, Abitibi and Howard Smith Mills.
He was born in Kingston, Jamaica on
June 28, 1897—so is soon to be 48. He
is married and has one son.



ALCOHOL PLANT AT PUGET SOUND PULP Is Efficient, Push-Button Operation With M

Following is the first detailed, fully illustrated descriptive article on the new ethyl alcohol plant of the Puget Sound Pulp & Timber Co., Bellingham, Wash. In this article we have attempted to present in language and pictures understandable to pulp and paper industry executives, a description of this process and its possible significance to this industry. The operation of this plant may have important influence on the future of the North American industry. Certainly, there is no one today who can state unequivocally just how great or how small that influence will be—unless he has been looking in a crystal ball that really works.



FRED C. STEVENOT, of San Francisco, President, Puget Sound Pulp & Timber Co.

ALMOST as rare as a day in June is an alcohol plant using sulphite pulp effluent as its basic material.

Actually, in all the world, there are only a few more pulp mill alcohol plants than there are days in this month. Although we are just beginning to get information from Europe, where most of them have been built, it may be stated without fear of violent dissent that the new alcohol plant which has risen in Bellingham, Wash., compares with others of its ilk as a V-8 does with a Model T.

In recent months there has been much publicity given to new alcohol reduction processes in both the east and west of the continent. Unbiased and expert observers have expressed the opinion that the processes used at Puget Sound Pulp & Timber Co., in Bellingham, are the best now available to the pulp and paper industry.

This article will go into more detail, but at the outset, as a specific example of its modern construction, the unique steam stripping equipment should be cited, whereby 15 pounds of sulphur per ton of pulp are being recovered for re-use in the mill.

Also, as evidence of its up-to-the-minute modernity, it should be pointed out that this entire plant, which makes 6,000 gallons of ethanol daily from 600,000 gallons of effluent, is operated through all its processes by a very few men. Ev-

Facts About Puget Pulp

Puget Sound Pulp & Timber Co. began modestly in 1926 with a 40-ton plant. In 1944, it had grown to the point where its payroll totalled \$1,718,000 for about 300 persons in the unbleached sulphite pulp mill and another 300 in the woods. Its capacity had been expanded to 335 tons daily, but owing to labor and wood shortages it has been operating at 65.75% since 1942.

A modern plant of 190 tons daily capacity was built in 1938, at a cost of \$1,000,000, which incorporated new changes in manufacturing technique. A large unit added in 1940 at a cost of \$1,500,000 brought the mill to present capacity.

It was in 1929 that the late Oasian Anderson and his associates, now carrying on, acquired the properties.

Here's the record of the past 3 years:

	Tons Produced	Payroll
1942	153,546	\$1,277,000
1943	101,337	\$1,610,000
1944	98,986	\$1,718,000

every step in the process is automatically measured and controlled with amazingly diverse control panels as part of the equipment.

There are economies in the use of lime which also contrast the Bellingham process with its predecessors. Here, too, is a unique system of continuous fermentation which saves space and manpower as compared with batch systems. This must strike a familiar chord for

many pulp and paper mill executives and engineers, who have been thinking more and more in recent years of the advantages of push-button, continuous operations in papermaking. In all industry, continuous processes appear to be the up-to-date trend.

The Future

Uncle Sam is paying the ceiling price to Puget Sound — 46 cents per gallon — for the alcohol, now used in manufacture of rubber and explosives. Of this, 15½ cents per gallon goes back to the government as rental for the plant which it financed at a cost of approximately \$1,000,000.

After the war — when Puget Sound has an option to buy the plant (on the usual terms established by the government) — the market price of alcohol undoubtedly will be below the present ceiling.

But there are no positive indices of future price and market. The alcohol made at Bellingham is suitable for a great variety of uses—ranging all the way from gin and rubbing alcohol to ethyl acetate, lacquers, varnishes, plastics, explosives, rubber and fuel. It may be safely presumed that the uses will be greater in future years than they were before the war. A cheaper and better synthetic rubber, no doubt, will be made, even though use of natural rubber resumes on extensive scale. Any other commercially profitable by-products which may be developed from the 96% of liguin left in the mill effluent after the wood sugar is used for alcohol, will — in direct ratio — reduce the cost of making alcohol by this process.

Costs of operation in a plant such as this are of chief interest to management in the pulp and paper industry. It may be stated that the costs of operation of the Bellingham plant, now in its fourth month, are up to the company's expectation.

The Bellingham mill is strategically located as a possible principal supplier of alcohol after the war to Pacific Northwest or Pacific Coast industries. This may very well indicate the basic consideration for any other pulp and paper mills that may enter this field. That is,

that their business of prospering. It costs approximately one gallon to ship this product to the west coast.

For example, the west coast is competitive with the east coast molasses in the use of industrial increase in the has sprung up the west coast.

Last year a lions of industrial in the U. S. year's require under that explosives and breakdown las gallons from molasses, 60 ties and 35 n Cuba and Ca

There is no that mill effort more economical grain. The la of it made in tilities, is a price substantial price of synthetics (press which advantages at none of it ma and possibility industry will markets and ket for oil n the alcohol l

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SOUND PULP & TIMBER CO., BELLINGHAM, Washington Equipped With Most Modern Equipment of Kind

paper mill executives who have been more in recent years of push-operations in all industry, compare to be the

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mill is strate- possible prin- alcohol after the west or Pa- This may very consideration and paper mills field. That is.

that their business has best chance of prospering if it is local in nature. It costs approximately 12 cents per gallon to ship alcohol across the country, so that transportation of this product is expensive.

For example, the transportation cost makes alcohol produced on the west coast from sulphite liquor competitive with alcohol made on the east coast from West Indies molasses in the west coast market. There is well-founded belief that use of industrial alcohol will increase in the plastic industry which has sprung up in close liaison with the west coast airplane industry.

Last year about 590 million gallons of industrial alcohol were used in the U. S. or exported and this year's requirements will be slightly under that figure, mostly for explosives and synthetic rubber. The breakdown last year was 431 million gallons from grain, 61 million from molasses, 60 million from synthetics and 35 million imported from Cuba and Canada.

There is no question, of course, that mill effluent alcohol is far more economical than alcohol from grain. The latter production, much of it made in converted whisky distilleries, is subsidized and gets a price substantially above the ceiling price of alcohol. Alcohol from synthetics (petroleum) is the process which has the greatest cost advantages at present, but there is none of it made on the Pacific Coast and possibilities are the petroleum industry will find more lucrative markets and that a tightening market for oil may keep them out of the alcohol business.

It must be stressed that there can be only mere speculation today on the future of alcohol, but the above points are the principal ones given credence in considering possibilities for alcohol from sulphite mill effluent.

History

The Puget Sound Pulp & Timber Co., one of the pioneer pulp producers of the west, first debated the possibility of producing ethyl alcohol from pulp mill effluent in 1939. This was little more than a year after completion of construction of its new and modern unbleached sulphite pulp plant on the



LAWSON P. TURCOTTE, Executive Vice President of Puget Sound Pulp & Timber Co., who negotiated and directed construction of alcohol plant.

Facts About Alcohol Plant

The sulphite liquor alcohol plant at Puget Sound Pulp & Timber Co., is fourth of its kind in North America but is the largest and most modern in the world. Another is operating at Ontario Pulp & Paper Co., Thorold, Ont. Others in past years were operated at West Virginia Pulp & Paper Co., Mechanicsville, N. Y., and experimentally at the old Willamette Paper Co., West Linn, Ore.

Essential facts regarding the Bellingham plant:

Mill effluent used—600,000 gals. daily.
Plant capacity—6,000 gals. ethanol daily, plus small amounts of methanol and fusel oil.

When first discussed by the company — Fall of 1939.

First 190-proof alcohol produced—March 5, 1945.

First tank car loaded—Mar. 23, 1945.

U. S. price (ceiling) — 46 cents per gal.

Rental paid back for plant — 15½ cents per gal.

Investment in plant—Approximately \$1,000,000.

Steps in production — Pickup of liquor; preparation (steam stripping and cooling); fermentation, distillation, storage and shipping.

Present utilization — In manufacture of synthetic rubber and explosives; lend-lease.

Bellingham harbor in May of 1938.

It was even before the timely expansion of the mill in 1940, which provided an important contribution to national defense just a short

time before Pearl Harbor. Pulp capacity of the plant at that time was increased from 80,000 tons to 135,000 tons annually.

The late Ossian Anderson, who was then the president of the company and who for many years was perhaps the most colorful figure in the coast industry, had foreseen the need for more unbleached sulphite. Likewise, he had foreseen the possibilities in alcohol production.

After his sudden death in the fall of 1942, Fred G. Stevenot, a director, was elected president, and Lawson P. Turcotte, secretary-treasurer, was promoted to executive vice president and director. Mr. Turcotte carried on where Mr. Anderson had left off in the alcohol plant plans. The government decided to finance the venture in view of the need for alcohol for war purposes.

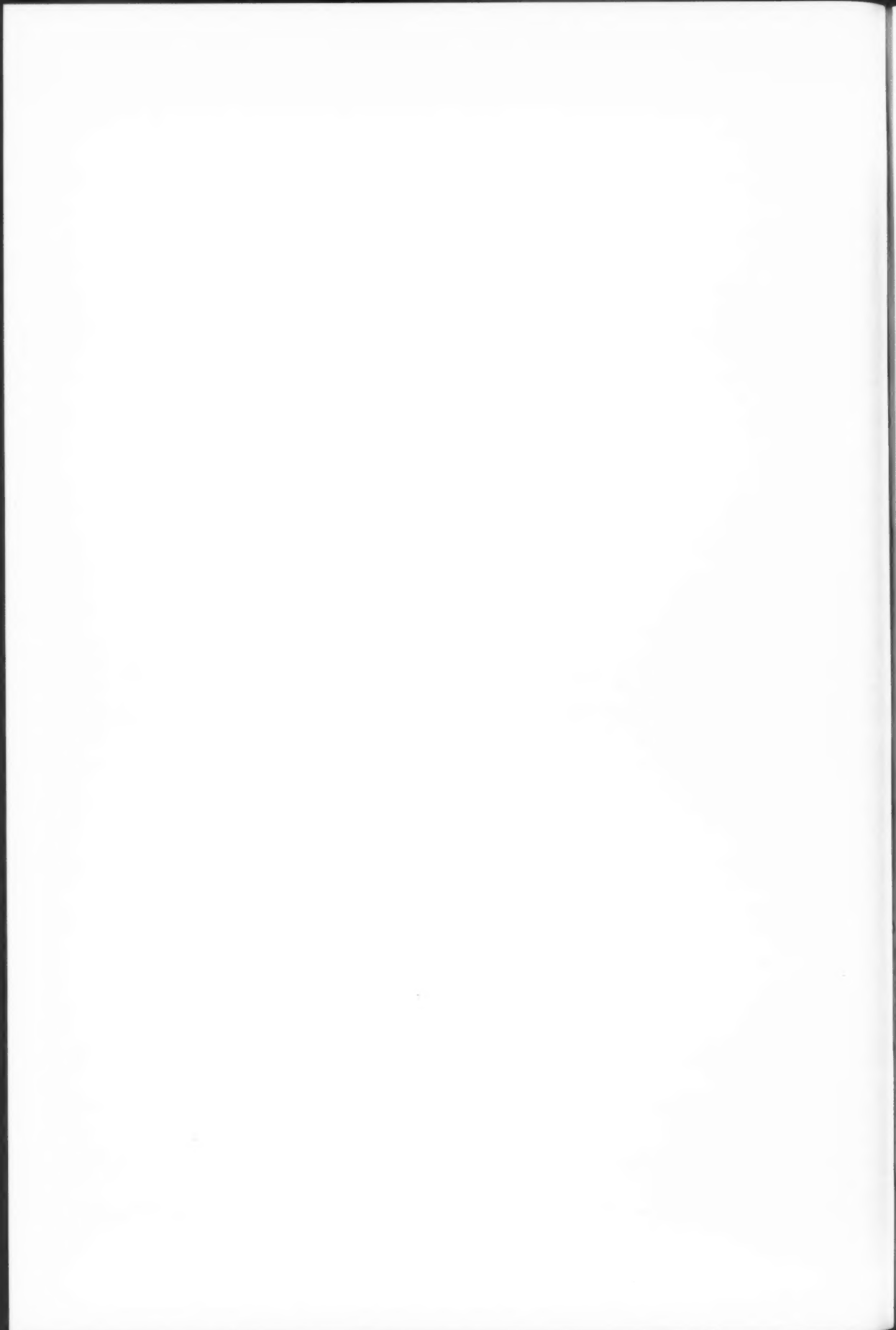
Ralph M. Roberg, vice president in charge of sales of the Bellingham company, has devoted much of his time since then to a study of alcohol markets.

Two years of comprehensive research by the company's technical and engineering experts in cooperation with the engineers of the Vulcan Copper & Supply Co., of Cincinnati, led to the completion of a highly efficient and smoothly operating alcohol plant. Vulcan engineers have long been experts themselves in this field as experienced manufacturers of distillation equipment and associated processes. Building construction at Bellingham was done by Howard S. Wright Co., Seattle.

President T. O. Wentworth, of Vulcan Copper & Supply Co., H. R. Duffey, who is chief engineer, and George Pohler, field engineer of the company, and a staff of experts worked closely with the Puget Sound officials in this development.

Erik Ekholm, who has been general superintendent of the Bellingham operations since 1929, made extensive studies and traveled many miles to observe other operations in planning the new addition. So did Eric O. Ericson, the technical director, a graduate of the University of Washington in chemical engineering, who has been with the Bellingham company since 1935.

H. C. Haner, who became acting





(Left to right): H. C. HANER, Acting Plant Engineer; ERIK EKHOLM, General Supt., and ERIC ERICSSON, Technical Director.

This trio spent many months in travel and study in developing the final plans for the new alcohol plant at Puget Sound Pulp & Timber Co.

plant engineer when Harold D. Cavin entered the service, carried on as a member of the "team" with Mr. Ekholm and Mr. Ericsson in the preparatory work and completion of the alcohol plant. Incidentally, Mr. Cavin is now a commander of a Seabee battalion in the Philippines.

FLOW DESCRIPTION

These are the stages in the alcohol process at Bellingham—liquor collection, preparation, fermentation, distillation, storage and shipping.

Liquor Collection

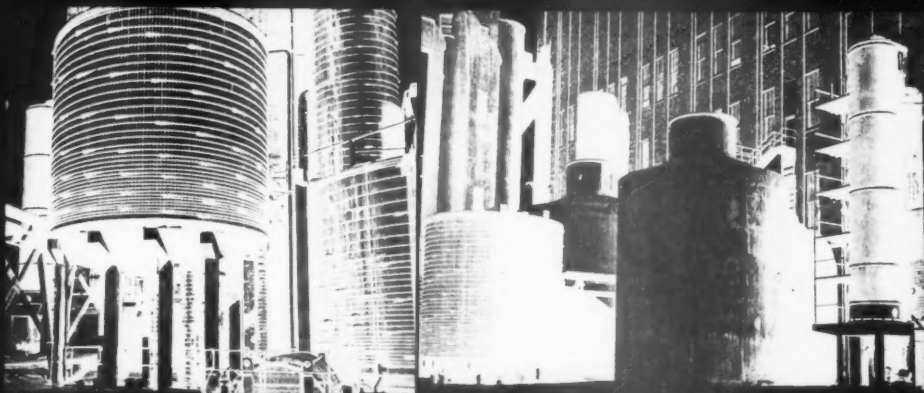
This first stage is accomplished with equipment in connection with

the pulp mill itself. During the pulp cooking process, carbohydrates present in the wood are hydrolyzed and converted into simple fermentable sugar varieties and it is these ingredients which are distilled into alcohol.

Contrary to the usual custom in many pulp mills, of padding the blowpits with water before blowing, the pits at Bellingham are padded with about three feet of sulphite waste liquor from the previous blow, after which the digesters are blown in usual fashion. A draining period is then allowed, followed by a standard washing.

The amount of diluted liquor desired for the alcohol plant is controlled thermostatically. The liquor is hot after the cooking, but the cold water used in washing brings the draining to a gradually cooler temperature. At a temperature which is pre-determined by the operators, the outlet valve is automatically shut off. At that temperature, it is to be presumed, the dilution of the liquor has reached a point where it is undesirable for the alcohol process. The remainder—very dilute wash water—runs off via the old pipe line to the bay.

The liquor utilized in the alcohol process flows from the blowpits to a small surge tank with float control, which is shown on page 20. This operates automatically and starts a pump transferring the liquor



MODERN PICKUP AND STRIPPING EQUIPMENT installed by Vulcan Copper & Supply Co., of Cincinnati (123 Sycamore St.) for the plant which is making alcohol from the sulphite effluent of Puget Sound Pulp & Timber Co.

Here is equipment which picks up the liquor and sends it via the raised pipe line on extreme left to the alcohol plant. The pipe line runs from the stripper (shown in both above pictures).

Left—Raised on stilts in center of this picture is the intermediate 40,000 gal. liquor storage and back-fill tank with level controller and surge tank below (small tank on its side in well). Pulp mill installations on right and in background.

Right—Shows location of the liquor stripper (on right) in relation to pulp mill. In this stripper, liquor passed downward, steam upward, and sulphur is recovered for re-use in the mill. It contrasts with aeration process used in other sulphite effluent alcohol plants. A large tank (lower left) before the stripper is shown in front of the mill's acid tower. The building is the digester house and in center background are the pulp mill accumulators.

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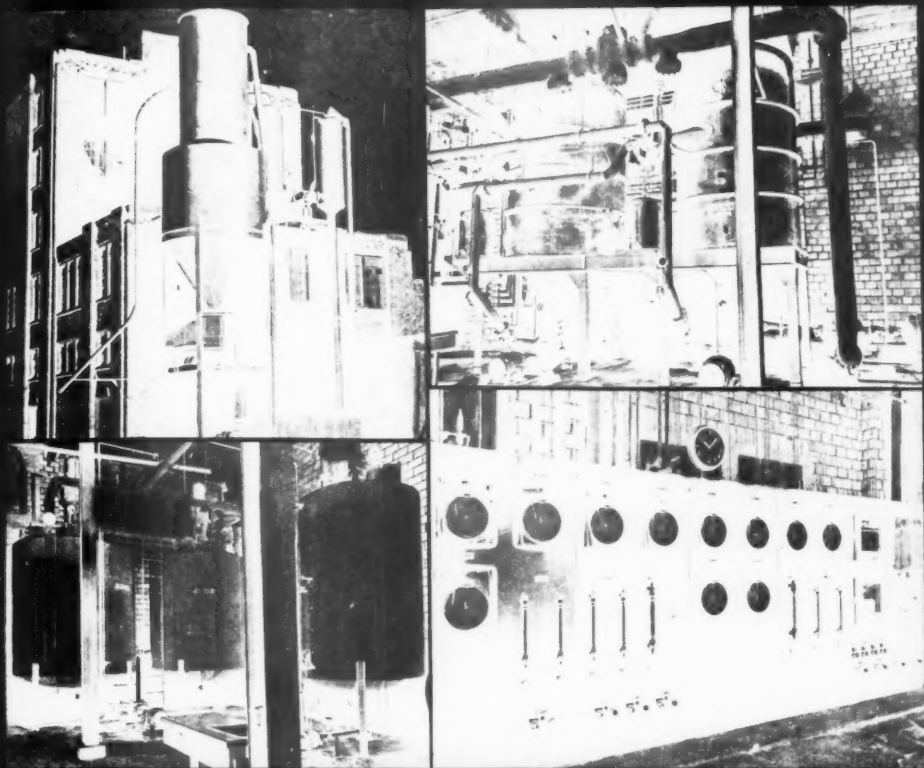
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COOLING AND NEUTRALIZATION steps in the production of alcohol at the Puget Sound Pulp & Timber Co. are shown in these pictures.

Upper left—View of alcohol plant showing lime handling and storage equipment and other outside installations. Two upright cylinders on right of the hydrated lime feeding equipment are barometric condensers with hot well. Horizontal smaller cylinders showing between the condensers are steam ejectors. These ejectors and condensers were supplied by Ingersoll Rand Co. (11 Broadway), New York City.

Upper right—Flash coolers and pumps in the neutralization department.

Lower left—Two lime slurry tanks (left) and urea tank on ground floor of the neutralization department.

Lower right—The neutralization control panel with Foxboro instruments on the ground floor.

to an overhead 40,000-gallon storage and back fill tank. This overhead storage tank contains the amount of liquor necessary for the bottom charge for priming the blowpit for the next blow.

The liquor for alcohol processing overflows from this tank to a larger 100,000-gallon storage tank preparatory to the steam stripping operation.

Stripping

Total or partial elimination of the acidity or sulphur dioxide is required in nearly all methods for disposal or utilization of sulphite mill effluent. The process of stripping, whereby the sulphite liquor is exposed to counter-current flow

of steam in a suitable apparatus is one method of reducing or removing sulphur dioxide. In this case sulphur dioxide and other volatiles are expelled, mixed with steam vapors.

Practically all of the free sulphur dioxide and part of the loosely combined sulphur dioxides are eliminated in the Bellingham operation. As is apparent in the photograph on page 20 of the stripper, tar paper is covering the outside. Beneath the paper, it is covered with magnesia and both are for the obvious purpose of conserving heat. The stripper is one of a number of important parts of the complete assembly furnished by Vulcan.

The stripper plate column is 96 inches diameter and 50 feet high. Liquor enters from the top, and the steam, of course, from the bottom. This process has resulted in not only a very suitable liquor, requiring only small amounts of lime for further neutralization, but is also returning an appreciable amount of sulphur dioxide, which in the Bellingham operation, is absorbed directly into the acid system. All castings of pickup and preparation equipment are stainless steel. Castings, drain valves and other miscellaneous equipment here were made by Electric Steel Foundry Co., Portland, Ore.

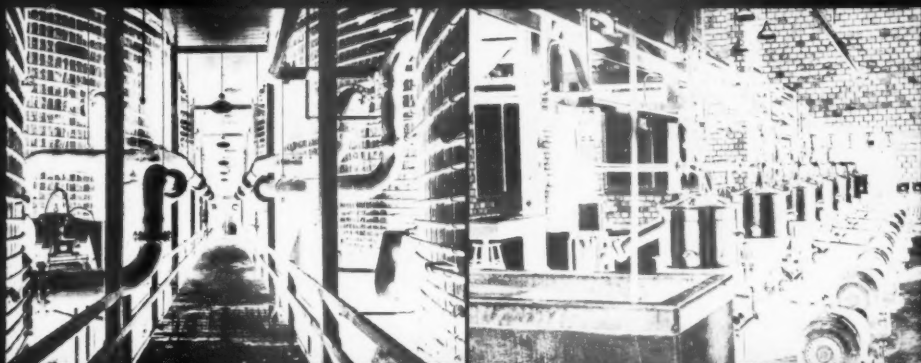
This continuous stripping process contrasts with the aeration process-



Cincinnati (123) Pulp & Timber Co. the alcohol plant.

back-fill tank with and in background. liquor passed down- press used in other mill's acid tower.





FERMENTATION (left) and CENTRIFUGING (right) processes of the alcohol plant are shown in these pictures. The fermentation tanks, piping and agitators from the lower walkway in the plant are shown. If this picture were in color, the reader would get an idea of how various identifying colors are required by the U. S. alcohol tax unit. Red pipes carry beer, brown carries slops, white carries water, etc.

On the right is shown a battery of Fairbanks, Morse motors serving the De Laval centrifuges. On the extreme upper left of this picture is the bottom of flow splitters and a head tank. In the foreground is the lead-lined cleaning sink.

es used in previous sulphite mill alcohol plants.

The stripped liquor is pumped from the base of the stripping column to the alcohol plant proper. At this point we leave the equipment which is adjunctive to the pulp mill itself and cross to the new plant, about three hundred yards distant, on the opposite side of the mill offices and laboratory.

Cooling of Liquor

The first unit in the alcohol plant proper is a two-stage vacuum-flash unit where the liquor is cooled to the desired temperature for fermentation.

Pictures on page 21 show this two-stage unit, consisting of two stainless steel tanks, and the lime handling and utilizing equipment. At this stage, lime, as required, is added to the mill effluent.

Commercial hydrated lime is used, and it is brought to the mill in box cars and unloaded into a large storage bin with the pneumatic equipment commonly used in pulp mills for handling lime.

The lime is weighed into lime slurry tanks, where it is mixed into a slurry with water. This is added to the sulphite liquor in the amounts required for adjusting the acidity or pH to the optimum fermenting efficiency. This addition of lime is controlled automatically by a pH controller. The consumption of this lime at the Bellingham plant is at present running at 2½ lbs. of hydrated lime per 1,000 gallons waste sulphite liquor.

Admixed as required with lime slurry, the liquor goes into the vac-

uum flash unit. Temperature of the liquor entering the coolers is approximately 100° C. The outlet temperature from the coolers is about 30° C., or whatever is desired for the next step—the fermentation process. The vacuum is maintained by use of the steam ejectors and barometric condensers shown in the outside picture of the plant on page 21. These steam ejectors and condensers and some of the pumps in this section of the plant are supplied by Ingersoll-Rand Co.

Cooling by this method also effects an increase in concentration of the liquor of about 12-13%.

Discharge from the flash coolers is pumped out to liquor storage tanks, first passing over 60-degree-inclined 80-mesh wire screens, where any remaining fibers carried from the blowpit is removed. Thence the liquor drops into a storage tank.

This entire stage of the process is directed and controlled at a control panel supplied by Vulcan with Foxboro instruments.

Fermentation

A considerable footage of piping is used in the fermentation and distillation sections, as shown on pages 22-23. Here the novice becomes aware of one of the traditional customs, or rather regulations, of the distillery industry. That is, the variety of colors used in pipes, as prescribed under the standard pipe code of the Alcohol Tax Unit, Bureau of Revenue.

Red piping must be used for the beer which is manufactured at this stage. Here are some of the other required pipe colors—some of

which are encountered at the next stage:

Blue for alcohol vapors; black for alcohol; green for carbon dioxide; brown for slops; yellow for fusel oil; yellow with blue stripes for heads fractions; white for water; aluminum for steam, and gray for raw material. That kind of a system would certainly liven up pulp and paper mills if adopted in that industry.

Returning to our flow description, the liquor is now pumped to the fermenters. Yeast goes into the same pipe line, as do the nutrients for the yeast in the form of urea. The urea (tank shown on page 21) is used to provide nitrogen, of which the liquor is deficient. It is at this stage that the sugars in the liquor are converted to alcohol by yeast, as in any other standard fermentation process.

Equipment consists of eight fermentation tanks with a capacity of 100,000 gals. each, and a working capacity of 80,000 gals. each. The battery of eight fermenters (see page 22) operate on a continuous setup.

The eight fermenters are equipped with propeller-type agitators to keep the yeast suspended. In the fermenters the liquor has about 1% yeast by volume. Fermentation takes place in 20 hours at a temperature of about 30° C.

The neutralized liquor, yeast and nutrient enters the first tank, overflowing continuously from tank to tank until it reaches the eighth tank, where it is removed by pump to the fourth floor of the still house to a

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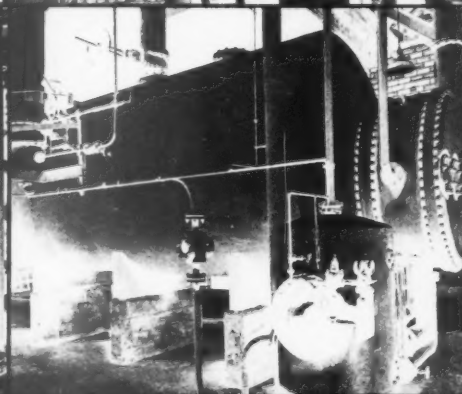
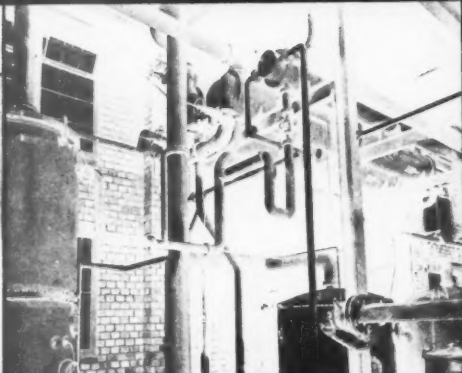
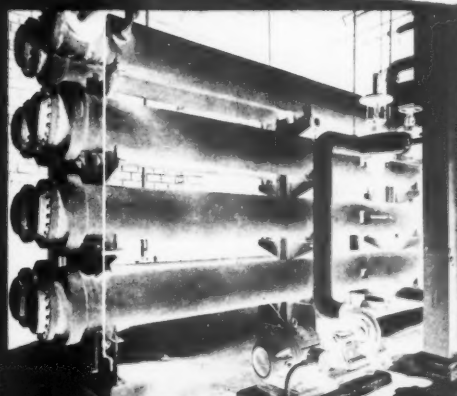
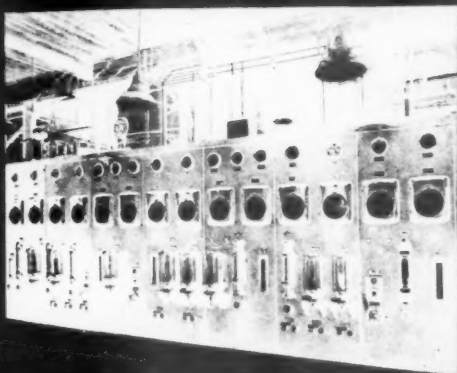
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our flow description, pumped to the fermenter into the same for the nutrients for form of urea. The on on page 21) is nitrogen, of which percent. It is at this stage in the liquor alcohol by yeast, standard fermenta-

sists of eight fermenters with a capacity of 100 gals. each. The fermenters (see on a continuous

menters are equipped with agitators of the type suspended. In the liquor has about 1% Fermentation takes at a temperature

liquor, yeast and the first tank, overflows from tank to the eighth tank, and by pump to the still house to a



HERE ARE FOUR VIEWS OF DISTILLATION EQUIPMENT designed for the Puget Sound pulp mill by the Vulcan Copper & Supply Co. of Cincinnati.

Upper left—Distillation control panel equipped with Foxboro instruments. This is the most diverse of the control panels in the plant.

Upper right—Tops of purifying atmospheric and pressure beer stills with beer pre-heaters and vent condensers above.

Lower left—Beer exchanger and re-circulating pump.

Lower right—Steam generator and level controller.

decanter, which serves as a constant head tank for a battery of De Laval centrifuges. These machines are operated at 4,600 RPM and separate the yeast from the beer. They are driven by Fairbanks, Morse motors, shown on page 22. The yeast goes back for use in the next fermentation cycle.

The pros and cons of the continuous process systems as opposed to batch processing is today a subject of lively discussion in virtually all chemical and allied industries, including the pulp and paper industry. The Puget Sound Pulp & Timber management is not making any sweeping claims for its continuous fermentation system but it very clearly permits economies in space and manpower, which are readily understandable for instance to pulp

and papermakers, who have supplanted big bulky beaters, for example, with push button pulp preparation systems.

Use of sulphite liquor in an alcohol plant lends itself readily to a continuous fermentation, which would not be advisable in some other types of alcohol plants, because the liquor is sterile and contains no insoluble solids.

The liquor from which most of the yeast has been separated flows by gravity to storage tanks which are called beer wells. These are the storage tanks ahead of distillation.

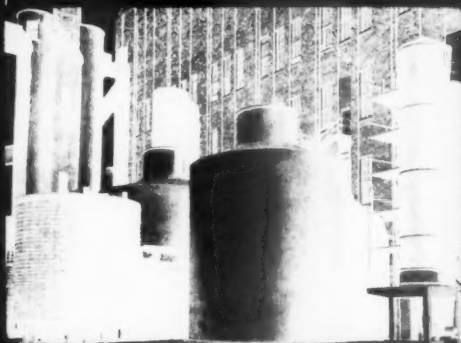
The beer is pumped to a continuous four-column distillation unit (see page 23 photos) employing the Vulcan patented vapor re-use process. The alcohol is stripped from the beer in two beer stills, op-

erating parallel to each other. The first supplies the heat requirements for the second. The alcohol is then transferred to a third still, or rectifying column, where any traces of fusel oil are withdrawn. The heat for this rectifying column is supplied by the second beer still. The fusel oil is withdrawn as a side stream and is washed, decanted and discharged for storage. This is a by-product of the plant which may be commercially utilized. Methanol is another. Thus far only the ethanol (ethyl alcohol) is marketed.

Concentrated alcohol from the rectifying column is fed to a purifying column where the methanol and other volatile constituents are separated from the alcohol. The overhead distillate from this column comprises the methanol fraction

NEW PLANT of
PUGET SOUND PULP & TIMBER CO.
 BELLINGHAM, WASHINGTON
 Operated for Defense Plant Corporation

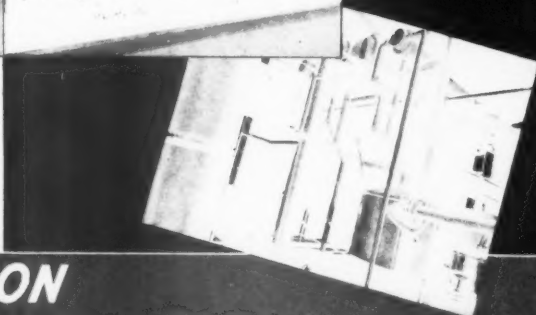
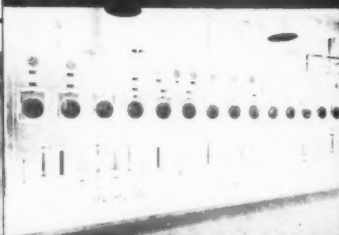
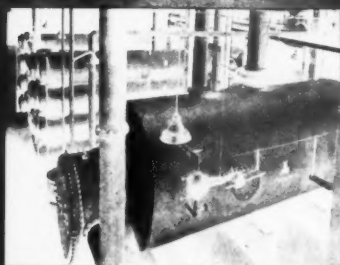
For Producing **ETHYL ALCOHOL**
FROM WASTE SULPHITE LIQUOR



ENGINEERING DESIGN and
 PROCESS EQUIPMENT

Furnished by

VULCAN
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DISTILLATION
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PROCESSES and EQUIPMENT

THE VULCAN COPPER & SUPPLY CO., CINCINNATI, OHIO



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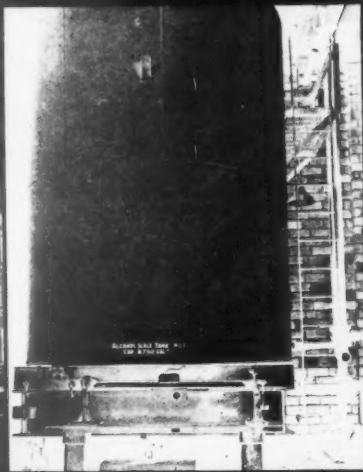
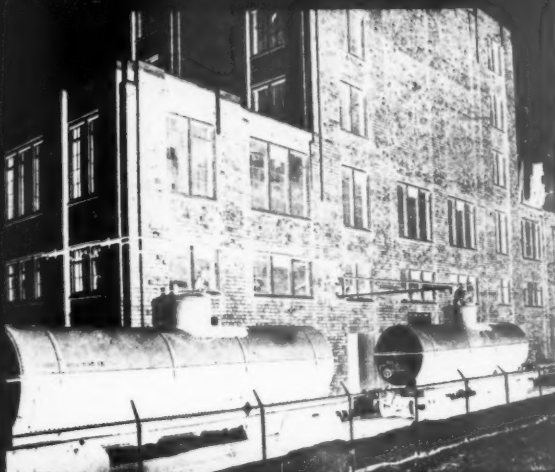
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Left—Loading the first railroad tank car with alcohol at the new modern plant at Puget Sound Pulp & Timber Co. The date was March 23, 1945. Right—The 8,750 gal. capacity scale tank and pump in the bonded warehouse in the plant.

which, following condensation and cooling, flows directly to storage.

Purified alcohol discharges from the base of the purifying column and flows to a final vaporizer wherein it may be treated with potassium permanganate as required.

The alcoholic vapor is condensed, cooled and flows to storage. The heat required for the operation of the purifying column and for the alcohol vaporizer consists of low pressure steam generated by the vaporous heat from the first beer still. The final alcohol product is just one per cent by volume of the fermented liquor.

In operating this distillation unit, a control panel is used. This is all highly specialized equipment developed by Vulcan. Here, too, the panel is furnished by Vulcan with Foxboro instruments. It is entirely automatic. The most complicated piping is in this final stage.

Here, especially, the inexperienced visitor becomes very much aware of the wire seals and even padlocks which Uncle Sam requires on valves and other connections in an alcohol plant. Wire seals are wrapped around permanent connections and the wire is soldered. Valves, which may require opening from time to time, are padlocked and the employee must call a government man to open it.

In the photograph of the distillation control panel on page 23 may be seen the small glass tubular "try-boxes." In order that the representative of PULP & PAPER INDUSTRY could dampen his hand

in the alcohol in this try-box and thus sample, by smelling (not drinking), the potency of the 190-proof alcohol, an internal revenue man had to come along and unlock the try-box and then lock it up again when the test was made.

The Bureau of Internal Revenue has its own office in the building and for the three shifts, there are one or two of these men on duty at all hours.

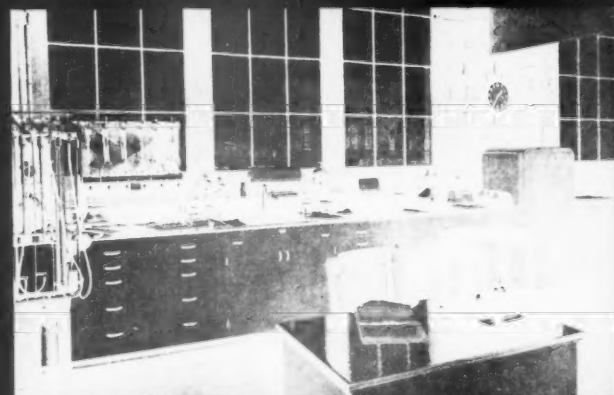
Storage and Shipping

The two pictures at the top of this page show the 8,750-gallon capacity alcohol scale tank, where the product is weighed, and also a railroad tank car being loaded—the

final step at Bellingham. Here, too, government men keep watch and the scale tank carries its lock which he must open for use.

Outside the alcohol plant are two 100,000-gal. storage tanks for the finished product. Here the alcohol is stored before loading of tank cars. On an average, four or five cars are loaded each week. Some car capacities are 8,000 gals.; others are 10,000 gals.

This modern alcohol plant is a strange sight today today to find at a pulp mill. If we could look into the future, it would be interesting to see if it will be such an oddity, say five years hence.



The alcohol plant at Puget Sound Pulp & Timber Co., Bellingham, Wash., has its own laboratory—which in general appearance resembles a modern pulp or paper mill lab.

Bellingham Mill Builds Hydraulic Barker Plant; To Have Sumner Chipper, Big Fairbanks, Morse Motor

Groundwork for the new whole log hydraulic barking and whole log chipping plant is proceeding at Puget Sound Pulp & Timber Co. and some of the equipment is being made.

Like all the other important pulp producers on the Pacific Coast, the big unbleached sulphite pulp plant at Bellingham, Wash., has devoted many months to intensive study of this most important engineering development of the industry in that region.

Like other mills which have adopted or are soon to adopt some variation of the new process, the Bellingham company's management anticipates important wood savings up to 18 or 20 per cent of usage.

The Bellingham staff under Lawson Turcotte, executive vice president, are going to incorporate some of their own ideas. The principle and exact methods of hydraulic barking they will use are being finally worked out this month. But meanwhile, piling has been driven for the plant and decision has been made for an all steel log haul and a steel and tile construction building with concrete floors. The nozzle will operate above the log.

Sumner Iron Works, Everett, Wash., has been given the contract to make the 17½-inch whole log chipper, similar to the new large type in vogue in this new

type of plant. These chippers (an 17½-inch one at the Everett, Wash., Weyerhaeuser Timber Co., mill was the first one) are the largest ever used in the industry. The Bellingham model will take 40-inch logs and will have four knives.

Fairbanks, Morse & Co., Fairbanks, Alaska, Chicago (5), is supplying a special motor to drive the big chipper.

W. F. Wahlenmaier, representative of Fairbanks, Morse in Seattle (1226 1st Ave. So.), describes this as an F.M. Type TZP, 1500 horsepower, 240 RPM, 2300 volts, 3-phase, 60-cycle, anti-friction bearing synchronous motor. Its weight will be approximately 34 tons, height, 10 ft., and length, 9 ft.

The Bellingham mill already has an hydraulic wood slab barker in operation (described on pages 15-16, *Pacific Pulp & Paper Industry*, October, 1944).

Inspects Alcohol Plants

Dr. E. E. Harris, who has a staff of 12 working under him in lignin chemistry research at the U. S. Forest Products Laboratory, Madison, Wis., was a visitor during May at the alcohol plant at Puget Sound Pulp & Timber Co., Bellingham, Wash., and the Willamette Valley Wood Chemical Co. alcohol-from-sawdust plant which is rising at Springfield, Ore.

Third Alcohol Plant In Northwest Is Planned

A third commercial alcohol producing plant in the Pacific Northwest is in prospect, according to recent announcement by A. M. Muck, Muck Trucking & Construction Co., Portland, Ore. The plant, to be located at Wilderville, Ore., will use the alcohol-from-lime-and-coke process, which process is based on an alien patent said to have been purchased by the Grants Pass Chamber of Commerce. Cost of plant construction and equipment is expected to be about \$1,000,000.

Oregon Alcohol Plant Is Taking Shape

Construction of the wood hydrolysis plant at Springfield, Ore., where sawdust will be manufactured into alcohol by a German process brought to this country by Nazi refugees, is well advanced.

The plant probably will not be completed until late this summer—near Oct. 1. About \$1,500,000 is being invested by the government, through the Defense Plant Corp. Steel framework is up for a 6- and a 4-story building. A wooden 4-story sawdust storage building is near completion and seven of 12 digesters were up at a recent date.

Ocean Falls Timber Situation Is Bright

Forest operations of Pacific Mills, Ltd., were highlighted at a management dinner held by the company in Vancouver, B. C., recently.

President Paul E. Cooper presided, and guests included F. A. Drumb, Crown Zellerbach Corp., San Francisco; R. H. R. Young, manager, and C. J. Hogue, personnel manager, both of the Ocean Falls mills.

Principal addresses of the evening were by J. A. Young, vice president, who outlined the new pensions plan which goes into effect next September 1, and T. B. Jackson, manager of the timber department, and J. H. Hodgins, chief of the company's forestry department.

"At present," said Mr. Jackson, "we control 225,000 acres of timber, containing three to four billion feet B.M. (about six to eight million cords), principally spruce and hemlock. Fifty per cent of our log cut at Ocean Falls is from the Queen Charlotte Islands. The balance of our essential log supply we acquire from small operators and the local log market. The mills at Ocean Falls consume 100 million feet B.M. in a year."

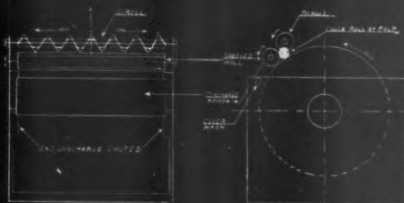
"Apart from the consideration of our new growth, our present timber holdings will last the plant for 30 to 40 years. Thousands of acres of scrub timber exist adjacent to the Ocean Falls plant—sufficient in itself to indicate that it will be a long time before a timber shortage becomes a reality in that area."

Service pins were presented to James Bird, with the company 20 years; W. I. Martin, 15 years; John Wilson, 15 years; Don Russell, 15 years; Ronald Gourlay, 10 years; Alfred D. Anderton, 10 years, and Ralph White, 5 years.

New Oliver-Denhardt Discharger

Oliver United Filters Inc., New York, has introduced a new Oliver-Denhardt discharger (shown on right), for groundwood deckers and sawmills. The equipment is interesting quite a number in the industry.

It is designed especially to discharge sheets that are characteristically thin or weak. The discharger consists of a rubber covered pick-up roll which revolves with positive clearance to roll up the sheet much as one rolls up a snowball on the ground except the mass is cylindrical instead of spherical. This rolled-up sheet is removed continuously by screw conveyor to chutes at each end of the vat. Consistency of the discharged sheet is exceptionally high for decker operations. Positive clearance protects the wire and it requires little power.



Killen On West Coast

James S. Killen, labor specialist and consultant, Paper Division, War Production Board and eighth vice president of the Pulp, Sulphite and Paper Mill Workers, was on the Pacific Coast in late May to attend the annual wage conference between representatives of AFL unions and the manufacturers, which was held in Portland, Ore.

Jacques Promoted

A. George Jacques, resident manager of St. Lawrence Paper Mills at Three Rivers, Quebec, for some time, has been appointed assistant general manager of that company and of Lake St. John Power & Paper Co. with offices in Montreal, it is announced by General Manager Percy M. Fox. S. E. Williams, formerly manager of Lake St. John Paper Co. mill at Dolbeau, Que., succeeds him at Three Rivers.

Smith in Montreal

Ralph Smith, of the Powell River Co., has been in Montreal conferring with pulp and paper executives.

Major White Dies

Major General John Burton White, C.B.E., D.S.O., E.D., vice president and director of the Canadian International Paper Co., died June 2 in Montreal, aged 72. He commanded the Canadian Forestry Corps in two wars and for years was prominent in the forest industries.

Wins High Honor

Dr. Otto Maass, director of the Pulp and Paper Research Institute of Canada, has been awarded the Henry Marshall Tory medal for eminent achievement in the world of science by the Royal Society of Canada.

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Needs and Opportunity for Research in Industry

By REUBEN B. ROBERTSON, Jr.

Vice President and General Production Manager,
Champion Paper & Fibre Co.

THE time has come for us to begin to change our thoughts and our plans from things that destroy civilization to things that better the status of mankind.

Our national income, due to the transient stimulus of war has been at an all-time high; unemployment has been practically non-existent and social gains have been great. We have learned what a nation, united in objective and working as one great team, can accomplish in the economic field.

We converted our industrial machine from peace time production to war time needs with remarkable skill and resourcefulness, but we must remember that this conversion was not complicated by the necessity of finding markets, nor by considerations of financial justification. Uncle Sam provided the market and Uncle Sam took care of finances.

Reconversion will call for even greater skill and resourcefulness, as it means not only production, but also the responsibility for seeking out markets and the justification for capital expenditures.

Research is bound to play a most important part in providing answers to the many difficult problems which confront us. Individual research, organized or teamed private research, consulting research, provided through private organizations and consulting research provided through public organizations, all are important—all should be used.

In a recent opinion, Judge Thurman Arnold, commenting on research methods in relation to patents, took as an example the classic instance of seeking a needle in a haystack and said, "The old method was to turn everybody loose in the haystack in a grand scramble; once in a long while the needle was found; the research method is to divide the haystack into a number of parts and assign one man to each part. The needle was generally found."

Judge Arnold's illustration was good, but we cannot say as much for his conclusions. We think that patents should be issued, objectively, each invention resting entirely on

its own merits. The granting of patents should not be in any way conditioned on the antecedents or the affiliations of the inventor nor on the conditions under which the invention was created.

The judge's radical departure from former well established rulings would, if accepted as part of the law of the land, open wide the opportunity for arbitrary and whimsical decisions that would discourage rather than stimulate invention. The precedent would be dangerous in the extreme.

Organized, systematic research justifies itself, it pays dividends in the long run, even when we offset frequent failures against infrequent successes. Mankind has been the gainer as compared with sole reliance on the "flash of genius" type of invention.

Obviously, the organized "mass" attack on a problem is not available for the resourceful individual who

More Research Into Research

U. S. industry spent \$250,000,000 for research in 1938, according to Barron's weekly. This is 0.8% of the value of manufactured products. Forest products were valued at \$3,000,000,000 in that year, but research in forest products did not come anywhere near 0.8% or \$24,000,000.

According to a speech of an Oregon congressman recently, only 30,000 persons were engaged in industrial research in the U. S. in 1937, as compared with 70,000 in Germany and 100,000 in Russia.

may have an excellent idea, but lacks financial reserves and the technical contacts necessary to explore its merits. Unaided individual effort has, no doubt, accounted for, by far the greatest number of inventions that have been recorded. Individual effort must be retained and encouraged, it should not remain unaided. Consultation with disinterested scientific agencies should be made available to him at modest cost, either through our universities or through some government-sponsored agency.

Organized research makes its own peculiar contribution to national progress. After all, this type of research is a gamble in which the risks of loss are heavy.

It is estimated that today there are something like 70,000 scientists engaged in organized research with

annual expenditures of approximately \$300,000,000.00. Industrial management sponsoring these expenditures is generally content if as much as five per cent of the projects undertaken turn out successfully. It seldom happens that an individual can afford to provide funds for the 95 "duds" that pave the way for the five successful projects.

After an invention has apparently been perfected, there is still the problem of conversion to every-day use. Practical development of an idea is fully as important as the conception of the idea itself. Donald David of Harvard, speaking of the scientist said, "He does a magnificent job in providing the analysis and the diagnosis, in short, he lays the egg. Too often he cackles and leaves the nest and the practical man must hatch it."

Rewards of Research

The satisfaction that comes from successful accomplishment is always an important reward for research effort, but it should not be the only reward. The incentive of possible financial return appeals to the individual investigator and to the sponsor of organized research alike. Size and affiliations do not change this fundamental motive in human affairs. We must provide incentive of limited monopoly, granted by the issuance of a patent, or must accept the alternative of suppression of information and prolonged secrecy regarding the details of inventions which should be brought to light. Our legislators of earlier days chose the wiser alternative when they established our patent system. Abraham Lincoln said the "patent system added the fuel of interest to the fire of genius."

Over the years abuses creep into any plan no matter how sound in basic concept and those abuses call for correction. We should not, however, "throw out the baby with the bath" and destroy sound fundamentals in our effort to correct abuses that do not go to the heart of things.

Industrial research groups, even when fully staffed, frequently find it advantageous to farm out specific projects to consulting research organizations—such organizations as the Mellon Institute, The Institute

Above are principal excerpts from an address on May 17 at a Research and Regional Welfare Conference, Chapel Hill, N. C., sponsored by the University of North Carolina.



Of Paper Chemistry and The Battelle Laboratories, provide facilities that are most valuable to big and little investigator alike.

Research along regional lines, along state lines and for industrial groups are all helpful adjuncts to our ever all program. On the national level such groups as the forest products laboratories, the bureau of standards and other similar groups make their worthwhile contributions to the sum total of our national knowledge.

The pulp and paper industry in which I am especially interested has long been accustomed to the methods of modern scientific research. To the use of these methods can be credited the production of strong white fine papers from the pines of the South, as well as the successful production of newsprint from Southern pine.

During the war period, paper in its various forms has rated high in the essentiality scale. Our Washington agencies could hardly have carried out the slogan which they are accused of fostering "pass the buck, throw the bull and make seven copies of everything" if they had not had efficient support from the papermakers.

The industry has made most valuable contributions to the war especially in the field of packaging of food and of a wide range of military supplies. Much has been learned about the wear-resisting and weather-proofing qualities of paper that will be of great value in the days ahead. Research has made possible the substitution, without real loss of quality, of obtainable raw materials for the unobtainable ones cut off by war's exigencies.

Research for postwar operation in this industry begins in the forest and carries through to the ultimate consumer. In the forest we are concerned with the most effective utilization of timber growth. We hope to see timber harvesting so planned that annual growth equals or exceeds annual drain, so that forests will be "farmed" for perpetual annual growth rather than "mined" for temporary gain.

Logging methods are being scrutinized for savings in manpower and in dollar costs because of the necessary close relationship and the delicate balance that exists between the amount of forest products that can be salvaged and the cost of that salvage.

All of us hope for high standards

of living for our workers in the future. High wages mean high unit costs and restricted markets unless high levels of productive capacity per man are maintained. Low unit costs obtained in this way permit more complete utilization of forest products and the conservation of a natural resource that is of vital importance to the nation and especially to the south.

European Standards

I have visited European forests where the utilization was complete from pine needles to the roots but it was complete only because low wages and low standards of living prevailed. It is said that Herbert Spencer, piqued, because of his defeat in a game of billiards, remarked, "To play billiards well is a sign of a well-rounded education, to play billiards too well is a sign of a misspent youth." Good utilization of forest products is a sign of a well-rounded economy. Too complete utilization may spell economic poverty.

In the manufacture of pulp, only about 40% of the weight of the wood can be used for the production of pulp fiber. The remaining portion of the wood weight, chiefly lignin, today is either burned for

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ALL FOUR OF THESE CAMAS men took prizes (left to right): R. B. HAIGHT, Asst. Personnel Supvr.; JACK V. SAVAGE, Sulphite Supt.; HOWARD BURRELL, Real Estate Mgr., and W. C. GIGLER, Napkin Dept. Supvr.

One of Superintendents First Prize Winners was GORDON MORSETH (left), Sulphite Supt., Detroit Sulphite Pulp & Paper Co., and former Acid Making-Cooking Supervisor, Puget Sound Pulp & Timber Co.

Crown Zellerbach Corp., Camas, Wash.; Dean W. Newell, Port Clinton, O.; Kenneth J. Mackenzie, Eastman Kodak Co. (paper mills), Rochester, N. Y.; Edward T. Jones, Brown Paper, Cecil C. Parvin, Port Edwards, Wis.; Harrison T. Beardsley, Johnsonburg, Pa.; E. A. Newman, Crossett Paper Mills, Crossett, Ark.; and C. A. Shoudy, West Virginia Pulp & Paper Co., Charleston, S. C.

Second prizes (\$100 bonds) went to Raymond C. Bullock, Ecusta Paper Co., Pisgah Forest, N. C.; John Smith (care W. T. Webster), Brunswick Pulp & Paper Co., Brunswick, Ga.; Jack V. Savage, Crown Zellerbach Corp., Camas, Wash.; Sidney A. Brown, Manchester, Conn.; G. R. Williams, Mead Corp., Chillicothe,

O.; William H. Astle, Michigan Paper Co., Plainwell, Mich.; Paul A. Todd, Consolidated Paper Corp., Grand Mere, Quebec; O. H. Messecar, Fraser Paper Co., Madawaska, Me.; William Herriott, Neenah, Wis., and S. Carroll Wentz, Spring Grove, Pa.

One of the most remarkable results of the contest was showing of the Camas Crown Zellerbach mill men—four of them winning the first four prizes for the entire U. S.-Canadian Pacific Coast region. Besides Messrs. Haight and Savage, mentioned above, H. E. Burrell took third and W. C. Gieger, fourth. The latter two and L. R. Hartman of Everett, and Austin Wyman of Port Angeles each won \$25 bonds.

Top 20 Winners In Superintendents' Contest

Ten \$200 war bond prizes for regional winners in an essay contest in which U. S. and Canadian members of the Superintendents Association were invited to write suggestions for improving relations with employees have been awarded to the following:

Robert Patterson, American Writing Paper Corp., Holyoke, Mass.; Gordon Morseth, Detroit Sulphite Pulp & Paper Co., Detroit, Mich.; R. B. Haight,

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fuel or wasted to the sewer. Scientists are busily engaged in developing uses for this lignin in plastics and in some of the newer wood products which give promise of extensive future use. Fatty acids and resin acids both by-products of the production of pine pulp by the Kraft process, have many possible new uses. Hydrogen sulphide released to the atmosphere in this pulping process, has given the mills a reputation for being rather "flagrantly fragrant" and while we must confess that we do resemble, to some degree, the rose behind the garden wall, in that our presence is known even though we can't be seen, still, we are aware of our shortcomings and are making progress towards correction through electrical precipitation and other methods of improvement.

The Southern Appalachians have been one of the nation's greatest sources of tanning materials through the utilization of the chestnut forests. The chestnut blight has killed nearly all of the trees of this variety leaving for industrial use only the dead end stems and while these stems will provide tanning material for probably a decade the problem of finding a substitute material of forest origin is a definite and pressing one. The study of tannin bearing trees of the south conducted by the University of North Carolina under the guidance of Dr. Russell constitutes a real contribution towards the solution of this problem.

Likewise the study of forest resources of North Carolina recently completed by Dr. Egon Glesinger under the auspices of the North Carolina Department of Conservation and Development is thought-provoking and informative and will undoubtedly be evidenced ultimately by many instances of profitable and jobmaking development.

Research and the scientific approach have in the case of the Ecusta Paper Corp. at Pisgah Forest (N. C.) under the farsighted guidance of Harry Straus, brought progress and prosperity to a community that otherwise had little chance of substantial growth. There farm and factory coordinate their efforts for the manufacture of cigaret papers and other high grade papers, using flax as a raw material. These papers in the pre-war period came from overseas.

Concerning Cotton

All of the south is vitally interested in cotton; in the methods of its production, of harvesting, of

Western Machinery Corp. Carries On From Where Hesse-Ersted Left Off

The name, Western Machinery Corp., came into being on May 1 to replace that of Hesse-Ersted Iron Works, Inc., 816 S. E. Taylor St., Portland, Ore. This firm, under its old name, is well known in the pulp and paper industry as designers and builders of machinery. New officers are: Kenneth B. Hall, president; Gregoire E. Haefliger, vice president; and George R. Castner, secretary-treasurer. Neither ownership nor company policies have undergone change.

The new name has been adopted in line with post-war sales developments. During the past year a new assembly

plant has been constructed to facilitate service to customers, and new, complete and modern welding and fabricating departments have been installed. Superintendent of the machine shop is Wally L. Ardies; the assembly plant superintendent is Ray H. Bennett.

Along with its reorganization and new equipment, the firm plans to have service engineers — to design, construct, and service machinery.

Western Machinery Corp. also will represent Noble & Wood Machine Co., Housack Falls, N. Y., as did its predecessor.



OFFICERS OF WESTERN MACHINERY CORP., 816 S. E. Taylor St., Portland, Ore., formerly known as Hesse-Ersted Iron Works, Inc. Left to right: GREGOIRE HAEFLIGER, Vice President; KENNETH B. HALL, President, and GEORGE R. CASTNER, Secretary-Treasurer.

conversion into finished products. The mechanical cotton picker, recently supplemented by the use of leaf removing chemicals, is recognized as having great possibilities as a means of keeping cotton production on a competitive basis in the markets of the world. The harvesting of "whole" cotton by machines, similar to those used for harvesting grains, is a matter that is receiving careful study. The plan being to broadcast the seed as in the care of grains and to extract oils and fibre by mass processing methods. Nice questions of economic balance are obviously involved.

Cotton will also feel the impact of increased production of staple fiber. Such problems will challenge the skill of our best scientific minds.

Research is needed in specific fields of technology, but for the results of research to find their greatest usefulness, the general atmosphere in which industry functions must be sympathetic. Congressional and administrative policies should be geared to plans which encourage rather than discourage the conversion of invention into actual projects of production.

In the past there has been a tendency, on the part of the business man, to hold himself aloof

from the scientist on the ground that the scientist lived too far up in the intellectual stratosphere and was impractical, while the scientist with equal aloofness was inclined to consider the business man too much "dollar-minded," too narrow in his viewpoint, to be worth talking to. The Committee for Economic Development has brought these two groups into close and mutual considerate contact with each other with a broadening of the view point of each. The resultant conclusions show the thoroughness of the scientist as well as the practical judgment of the man of business. The method has been so successful that it could well serve as a pattern for the study of many other national problems.

France Still Hopes For North American Pulp

As soon as possible France wants 30,000 tons of wood pulp from the U. S. and Canada, Emile Gillet, general manager of the Paris Association of Pulp and Paper Importers, declared in an interview at Montreal early in June. Only three of the seven French paper mills are currently operating, M. Gillet said.

Washington and Ottawa's official view seemed recently to be swinging toward the industry attitude that European pulp needs should be filled by Sweden and Russia.



PLACEMENT OF HANDICAPPED WAR VETERANS--

How Some Mills Are Trying to Solve This Problem

The following article is based on a number of questionnaires sent to pulp and paper mills by this magazine and by interviews with mill officials. It attempts to answer some important postwar questions for the benefit of small mills as well as the larger ones.

Here are reported case records and policies of companies who have engaged handicapped persons in industry, with a view of assisting mills to solve their own particular problems with those employees injured in the service of their country.

THIS war has and will continue for years to pose problems.

The battle field nations face unexploded mines, undetonated shells, sown unnumberably; the sea lanes will not be entirely free of floating mines. Life and property will be affected. But American industry and social life has a more subtle problem—which affects life only, the life of returned wounded and injured veterans, handicapped or partially incapacitated so far as social environment, ability to earn a living, the atmosphere in which they can still be fighting Americans, are concerned.

Pulp and paper mills have this matter staring them in the face just as surely as any other industry. With a total count of many thousands of former employees actually in the armed forces, and with over half of them on definite leave of absence, with the mill assurance of a job on return, the question holds great importance for the future.

In many instances the mills may not be able to fill their obligations for several reasons: noise; fast moving machinery; heavy work; lack of outside jobs; and few small table jobs. For, despite all wishful thinking, the mills are going to face the occupational placement of blind men; men without arms or legs; the psycho-neurotics from shell shock and a thousand other war conditions; the disfigured and the maimed.

What are the answers to be? Forward-looking mills are searching for those answers.

Many mills have determined their policies. Many are determined to handle each individual problem as it comes to them in the best possible manner, whether it be a veteran on leave who requires rehabilitation, or any other handicapped veteran who presents himself.

One of the big western pulp and paper companies says:

"Yes, there will be jobs for those who have lost arms, or legs; the company will take each case and see where the veteran will best fit in; shell-shocked and nervous veterans will be given jobs as far away from noise and vibration as possible. The company will go out of its way to find jobs for disabled veterans even if they are not former employees, and is going to do everything it possibly can to fit disabled veterans—former employees or not—into specially chosen jobs."

The American Paper and Pulp Assn. reports that the primary mills of the U. S. will have 31,000 mill jobs available for returning war veterans.

It made a survey which reveals that 15,000 will be needed to fill manpower requirements and an additional 16,000 jobs will be open as a result of war workers leaving the industry.

Prior to the adjournment of Congress in 1944, an amendment to the selective service act was passed and signed by the president giving veterans ninety days, instead of 40 days to apply for their old jobs. This may be timed from date of discharge or date of release from hospitals.

Crown Zellerbach Program

● Crown Zellerbach Corp. which is not the company mentioned above—has given high rank in its postwar planning to placement of veterans to whom they owe responsibilities. Many of their mills are situated in communities where the activities of the mills more or less dominate the community. Therefore, they anticipate the need for social rehabilitation as well as industrial.

Not only is the executive postwar planning committee planning new products and new sales explorations with the view of maintaining full production schedules in mills and converting plants, but committees are already forming within the numerous divisions of Crown Zellerbach whose specific duties will be to make the step back from war to peace less abrupt than it might otherwise be for war veterans.

From U. S. Pacific Coast mills alone, about 3,000 men are in uniform.

Personnel supervisors from manufacturing, logging and converting divisions in Washington and Oregon states held panel discussions on the subject of veteran placement for a full day in Portland recently, under direction of Frank A. Drumb, industrial relations director of Crown Zellerbach Corp., who stressed the importance and necessity of establishing and implementing veteran placement groups within the different operations for the job ahead.

Reginald Haight, Mike Paul and V. C. Gauld of the Camas, Wash., mill gave the assembled personnel men the benefit of experiences already gained by the veteran placement committee at Camas which has several hundred men and women in military service. Composed of management, labor union and veteran representatives, this committee is charged with restoring former employees into their positions or providing positions of equal rank and pay. In addition, surveys are being made of opportunities for job adjustment for employees in cases where a war mishap makes it impossible for them to fill their former duties. In fact, the committee is prepared to counsel on all problems affecting the employee-veteran.

William D. Welsh, San Francisco, addressing the sessions on the subject, said in part:

"We can make no finer contribution to the future than the wise, patient and human way in which we plan for and fit Crown Zellerbach military personnel into our

association and our country after the victory."

One of the smaller companies suggests that it may be eight jobs which can be filled by disabled veterans, depending on extent of disability, but payment to blind veterans of principal member losses—legs—is beyond the limit to provide. How prospects probably to make a physical examination to support army disability records, cases of nervous disability on less responsible jobs actions can be established employ other than on-line on the basis of ability requirements.

Mills in the state of Oregon have an advantage in that communities belong to organization which recognition of a committee of community or cluster ties. The committee, all walks of life, has been in the broad fields of business, labor, social, and their purpose is to use of all governmental agencies permitting the veterans such services are being veterans have a distasteful assistance, and still the committees, cooperating with these agencies, services and advice and these agencies have accomplished the veteran individual Washington when facing an individual can do its utmost on but it remains beyond of the mill committee secure help from its community within the community solve the problem in a try—perhaps in the future for example, where quiet of jobs in the wardens, etc., are suited handicapped veterans.

The Paraffine Company have supplied information their various plants which are situated on the Coast, to the effect that jobs has been made number of jobs in a can be filled by disabled is still a difficult one cause the placement depend upon the disability will be unable to blind veterans. They expect to give jobs to lost principal member or legs, and expect

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the executive post-committee planning and new sales exploration view of maintaining schedules in mills plants, but committee forming within the unions of Crown Zellerbach specific duties will step back from war abrupt than it might war veterans.

Pacific Coast mills 1000 men are in uni-

supervisors from managing and converting Washington and Oregon panel discussions on veteran placement in Portland recently, of Frank A. Drum, director of each Corp., who stress necessity of implementing veteran groups within the unions for the job

right, Mike Paul and the Camas, Wash., assembled personnel of experiences along the veteran placement at Camas which has men and women in

Composed of management and veteran this committee is restoring former employment positions or positions of equal rank and in, surveys are being conducted for job adaptation in cases where it makes it impossible to fill their former positions, the committee is concerned on all problems of employe-veteran.

Seattle, San Francisco, sessions on the subject.

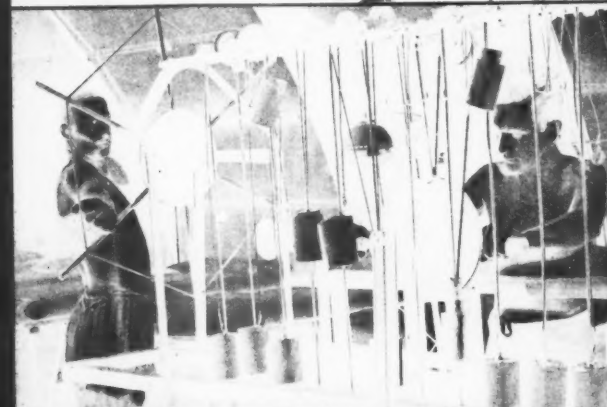
no finer contribution than the wise man way in which fit Crown Zellerbach personnel into our

association and our communities after the victory."

One of the smaller Oregon mills suggests that it may have six or eight jobs which can be filled by disabled veterans, depending on the extent of disability, but feels placement to blind veterans or those with legs—is beyond the limits of the mill to provide. However, it expects probably to make its own physical examination to supplement all army disability records, to give mild cases of nervous disability placement on less responsible jobs until reactions can be established, and to employ other than on-leave veterans on the basis of ability to meet job requirements.

Mills in the state of Washington have an advantage in that individual communities belong to a statewide organization which requires formation of a committee of 21 for each community or cluster of communities. The committee, drawn from all walks of life, has representation in the broad fields of industry, business, labor, social, and economic. Their purpose is to use the service of all governmental agencies without permitting the veterans to know such services are behind them. Veterans have a distaste for such assistance, and still the citizens committees, cooperating through and with these agencies, can have the services and advice and skills which these agencies have acquired without embarrassing the veteran. The individual Washington mill then, when facing an individual problem, can do its utmost on the problem but it remains beyond the ability of the mill committee to solve, can secure help from its committee of 21 within the community and probably solve the problem in another industry—perhaps in the Forest Service, for example, where the prevailing quiet of jobs in the woods as fire wardens, etc., are suitable for many handicapped veterans.

The Paraffine Companies, Inc. have supplied information concerning their various plants, four of which are situated on the West Coast, to the effect that a survey of jobs has been made but that the number of jobs in any mill which can be filled by disabled veterans is still a difficult one to answer because the placement will always depend upon the disability. It probably will be unable to allocate jobs to blind veterans. The company expects to give jobs to men who have lost principal members, either arms or legs, and expects to make in-



THERE MAY BE FACES HERE OF MEN WHO ARE GOING TO BE EMPLOYED AFTER THE WAR IN PULP AND PAPER MILLS.

Middle view: Two GIs exercise arms and wrists in physical therapy ward of hospital in England.

Top view: Wounded U. S. Officers undergoing Army's rehabilitation program at hospital in England. Many have canes and crutches. They are listening to exercise instructions.

Lower view: In the South Pacific area, at 109th Station Hospital, Miss Elizabeth Allen of Lafayette, Ala., helps patients learning to use tools in a Red Cross work shop.



dependent findings in regard to disability beyond the army medical record and recommendations concerning each individual case. Shell-shocked and nervous, type cases will be allocated jobs in the quiet spots in the mill, although no special plans have been made as yet for the employment of disabled veterans if there is no obligation.

Government Responsibility

● Beyond all these stand larger aspects of rehabilitation, because other agencies have more responsibilities for return to usefulness of the service men than do pulp mills, or business or industry. These are the Army, Navy, Marine Corps, and all governmental agencies attached thereto. Veterans who need plastic surgery, bone, tissue or muscle building, or treatment of all sorts of neurosis cannot be discharged until they are fitted to be employed in gainful employment. The men, until they are medically discharged to the mills, or former employers, are and should be wards of a grateful republic.

Suggestions from various other industries which may be of benefit to those working out the policies in the individual problems in the pulp and paper mills may be of some interest. In a factory in the east which has a very close tie-up with the navy and is receiving considerable cooperation in that sense from naval medical officers, the firm has found it must be able to secure a qualified training instructor, a man who has a knowledge of production and of job problems, an ability to break down shop operations into basic elements and to teach these motions to unskilled individuals, and also has a knowledge of physio-therapy.

Under the guidance of this training instructor, the patient is permitted to visit the mill and see the work done under the conditions which prevail. The emphasis is always placed upon training rather than on treatment. The sense of doing a real job with immediate commercial value is extremely beneficial to patient morale and gives impetus to faster recovery.

This organization, because of its confined-job character, has many advantages over a pulp and paper mill, but the experience is worthy of mention. It has early employed many physically handicapped persons among the thousands of employees. As the manpower shortage became acute, the number was increased.

In fact, one section of their mechanical assembly department is fully

manned by ambulatory handicapped people. These are always willing to do "fussy" jobs with greater patience than the able-bodied, but it was not until this company had made the physical demands charts for all jobs that assignment could be made on anything but a trial and error basis.

Experience in another company located in the midwest shows some startling uses of handicapped people. The manager of this company says, "At one time the Red Cross brought us a man of about 50 years of age who was slightly less than five feet in height because of a spinal curvature. He was assigned to stencil the shipping cases because all former men on the job had experienced difficulty in handling it because the man had to stoop slightly as he worked. The new applicant proved to be just the right height to do the job in an erect position and so could go through the day without tiring as the work was not hard."

"Another case record shows how a young man who had broken his leg while working in the installation of a conveyor system and had to have that leg amputated so close to his body that he could not wear an artificial limb, was offered a non-hazardous job controlling part of the conveyor system, a job which he still holds."

An infantile paralysis case, a young woman this time, completed a course in typing and soon developed in this company to be a first class typist. After learning that the girls who punched cards for the I. B. M. machines had a higher pay rating, she began to practice on the key punch during lunch hour and finally asked for a trial at this job. Today she is the best and highest paid key puncher in the company.

More Case Records

● Veterans handicapped by the loss of one eye seem to do any job as well in this organization as a man who has fully normal sight. Twenty-six of the persons on the payroll are totally deaf. The experience there has been that a totally deaf person can feel the vibration of an approaching truck even on the concrete floor, and the company has never had an injury to a deaf person from such a cause.

Among the employees of this company are several who have faces scarred or disfigured. This is something which the pulp and paper mills will in all probability have to face. The experience shows that at the start they should be given a job where they work by themselves. As, naturally, they come into con-

tact with other employees, they become less self-conscious and soon can be shifted to jobs right out on the floor, and having lost their self-consciousness, will be as good workmen as any others.

Success with handicapped employees or handicapped veterans will lie mainly in the pre-employment care they have been given. Here are suggestions made by one expert in the field:

The veterans should be carefully interviewed, given aptitude tests and offered all sorts of good counsel. The counsellor or placement worker should know the job requirements in full detail, even if he has to work on it himself, to see that no motion will be injurious to the handicapped person in his condition at the time the job is offered him.

The doctor who makes the physical examination at the time of employment should be familiar with the job's working conditions in the plant. When the handicapped person reports for work, he should be given far more instruction than the average employee and should be given continuing attention for a longer period of time.

What Foremen Should Do

It is recommended that his department head should go out of the way to have a short talk with the veteran quite frequently. After becoming accustomed to his occupation, the veteran should talk with the counsellor who of necessity must have frequent reports on the progress of the person. Then if the new job is not entirely satisfactory in every way so that he can enjoy doing what he is called upon to do without stress or strain, a new start should be made to relocate him under happier conditions.

The department heads and foremen are urged to spend more time in starting a handicapped individual on a new job. Some difficulty may be experienced in this respect, but any wishfulness on the part of the foreman to escape this phase of his job in connection with a handicapped individual will disappear as experience makes it clear to the supervisors that the little extra time spent with the new man has been fully repaid. And it will further demonstrate to the foreman that a little extra time spent with all new employees is a paying proposition.

Reginald Haight, head of the committee for veteran placement at the Camas plant of Crown Zellerbach Corp. where more than 700 men are actually in the service,

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Bear Brand Chemicals for the Western Paper Industry

AMMONIA
CAUSTIC SODA
CHLORINE
SULPHUR DIOXIDE
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- Dependably uniform, first quality chemicals under the Bear Brand label are used by many great paper mills of the West Coast. These essential materials are readily available.



Hermit Trail, Grand Canyon

**GREAT WESTERN DIVISION
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CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY



said one veteran who had not formerly been employed by the mill had a shoulder injury at the time he was given his job, and it is beginning to appear that this man is going to be one of the permanent mill employees after the war.

One mill official in the west makes this suggestion, which is certainly worthy of note, that lots of men not formerly employed by his mill are rejected because of social habits. He asks the question, "How can anyone help psychoneurotic cases where there are no home ties and where fellows spend their time drinking?" It seems the availability of wine or heavy alcoholic content is a matter which calls for some settlement or the continued disjointed actions of a portion of people subject to employment. However, this is a political matter beyond control of any individual industry or community.

An interesting case which already has developed in a western mill is that of a veteran who returned to his woodroom job. He had received a medical discharge, but has had several flare-ups and has had to return to a hospital three times since the date of discharge. He was for several months in the hospital and dropped from 180 lbs. down to 125 lbs., mainly because of malaria. It was once necessary to move him to the finishing room for about ten days, and then he asked to transfer back to the sawmill because he had always worked there. A local doctor now gives him the necessary shots to keep his nerves quiet.

A Canadian Hero's Story

● A Canadian broadcast recently told of the return of a young Canadian army hero, Capt. Allan D. Piper, to the Howard Smith Paper Mills at Cornwall, Ont. He had lost both his hands when he snatched a live grenade out of the hand of a young soldier who was too frightened to throw it, trying too late to get rid of it himself.

In hospital, he attracted interest of superiors by his determination to be independent, feeding himself by catching a fork in a bandage fold and even driving a car gripping the gear lever in the crook of his elbow and fixing his arms in between spokes of the steering wheel. Eventually, he was equipped with a new hand and a hook for the other arm.

Howard Smith Paper Mills gave him the right to try any job till he found one he could do. He wanted his old job back—as paper inspector—and he got it, even though it entailed using delicate instruments.

Powell River Co. Program For Returning War Veterans

Powell River Co. has inaugurated the office of personnel councillor, whose main job will be to assist in the rehabilitation of former employees returning from war service.

For this post a Powell River man still in military service was selected, but pending his demobilization the company has obtained services of Capt. D. K. Macken, recently released from the Royal Canadian Engineers.

However, the facilities of this office will not be for the exclusive use of those desiring reinstatement with the company. The company recognizes a responsibility towards the people formerly in its service whether or not they want to be taken back on the payroll when their war service is terminated. The personnel councillor will be available to offer ad-

vise and give practical assistance, where necessary, looking to the successful rehabilitation of the veteran.

Powell River Co. is planning to set aside new residential areas near the paper town for the occupancy of returning employees who will be aided in their building plans by federal government loans.

Letters have recently been sent out to all former Powell River workers now on war service assuring them that the company's postwar program has been designed largely with a view to providing employment and that their services have not been forgotten. The letters were signed by S. D. Brooks, chairman of the board, Harold S. Foley, president, Robin Bell-Irving, vice president, and D. A. Evans, resident manager.

The letters conclude with this paragraph: "Why are we doing this? First, in gratitude for what you have done for us. You volunteered to fight for the security of Canada; we feel it is our duty to help provide security for you in return. Our second reason is purely a selfish one. We think Powell River is a good community now, but we want to make it still better and we can think of no finer group of citizens to settle in our town than you who have fought for it."

Seven hundred young men who formerly worked for Powell River Co. are now in the fighting services. All of them are regularly in receipt of a monthly letter sent to them by the plant management informing them of happenings at Powell River. The volume of correspondence received in return indicates how much this means of contact is appreciated.

Mill Equipment Situation Only Slightly Changed

WPB took a step toward lessening restrictions recently when, on May 14 they told manufacturers of paper mill machinery and of wire cloth that they could accept un-rated orders from the industry—but only after they had filled their backlog of rated orders. This move was in connection with WPB Order L-83 on paper mill machinery, and No. L-209 on wire cloth, which have been received by manufacturers. WPB is still cooperating in the channeling of steel, copper and aluminum under the controlled materials plan.

An unofficial but well-informed source said that the modernization and rehabilitation of existing mills would be given equipment preference over machinery for projected new mills.

Close on the heels of the WPB relaxation came a Department of Commerce announcement that a manufacturing concern in China has accumulated a reserve of \$700,000 in U. S. currency to make "initial payments" for the purchase of American-made equipment. Department officials declined to expand on the announcement other than to say that paper production in China has been at a virtual standstill, and that many factors of world supply and demand are yet to be studied and concluded upon in connection with heavy machinery purchases in fields where the domestic plants are in need of renovation.



REGINALD A. BAKER, Purchasing Agent, Powell River Co., and associate firms. Says he: Good-bye, Powell River; hello, Vancouver—except for business trips up to the mill town.

Powell River Moves P. A. Office to Vancouver

Powell River Co. has moved its purchasing office from Powell River, B. C., the mill site, to executive headquarters in the Standard Bank Bldg., Vancouver, B. C.

Reginald A. Baker, purchasing agent, and his staff of five, were established June 1 in their new quarters in Room 1118, one floor below the principal executive offices. One result of the move will be that the office will gradually take over purchasing for the timber, transportation and all other associated companies of the firm.

Mr. Baker had been at Powell River for 33 years, as p.a. since Sept. 1, 1939, when the war began for Canada. He had been secretary to the resident manager and prior to that, on the engineering staff. O. G. Smith, who was 25 years at Powell River, and John McMillan, a new employee, are the assistant purchasing agents.



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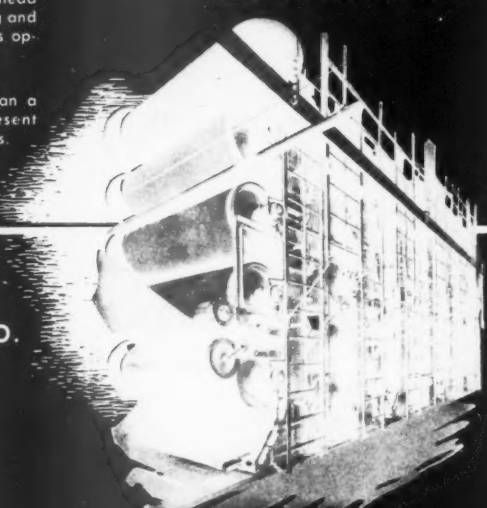
WHICH SHALL IT BE?

WHICH! A long drawn out horizontal dryer extending into the next county with machine and back tenders so far apart they have to wig-wag each other—or a Vertical dryer that shortens up the machine, utilizes overhead room, does a better job of drying and gives machine and back tenders opportunity to get acquainted!

WHY! Because the more modern and the more efficient your dryer, the better you'll fare in the years ahead. The same applies to your vat and press sections.

Verticals for practically all grades.

WHEN! Today—now—is the time to plan a vertical section, using your present dryers but in new vertical frames.



THE BLACK-CLAWSON CO.

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Divisions:

Shurtle Bros. Machine Co., Middletown, Ohio.
Dilts Machine Works, Fulton, New York.



Bulkley, Dunton Poll Reveals Big Majority Favors Simplified Paper Measure



GEORGE G. COBEAN (left), President of Bulkley, Dunton Paper Co., S. A., export unit of the company, and STEPHEN GOERL, Public Relations Director for the Bulkley, Dunton organization, study a flood of ballots in a nationwide poll in which principal paper consumers voted overwhelmingly for simplification of methods for measuring paper and paperboard.

Less than 1.4 of one per cent of 1500 large consumers, and less than one per cent of 700 paper and board manufacturers wish to retain the present method of measuring paper and board. This is the interesting revelation of a nationwide poll conducted by the Bulkley, Dunton organization and completed early this month. The poll appears to be the first practical step toward the adoption of a simplified standard base for all paper and board and presages the formation of a committee to assist in bringing the new decimal system into use.

Several leaders of the paper and graphic arts industry have in the past urged the adoption of a uniform standard base, but the traditional system has persisted except in the board industry.

The vast majority of votes in favor of simplification and the almost complete lack of serious opposition appears to indicate that some former opponents of the idea have changed over. This may be due to the fact that, at the present time, catalogues and sales promotion material is largely outdated, necessitating early changes. Also a factor may be impending changes in personnel due to the return of veterans. Observers who favor the plan state that the change had to come sooner or later, and that there is now an excellent, and perhaps never recurring, opportunity for the change-over. As one head of a large concern wrote on his ballot "any man bright enough to master the old system will certainly not require any re-education to learn the new base."

The proposed simplification does not involve changes in the present sizes and

weights of paper and paperboard. It merely provides for a simple method whereby the basis weight of all types of paper and board is expressed in terms of 1000 sheets of 1000 square inches each. Since 1000 is a decimal figure, it is infinitely easier, proponents say, to compute the sizes and weights on that basis.

The poll was undertaken as a result of a flood of letters received from industry leaders following some articles on base simplification by George G. Cobean, president of Bulkley, Dunton Paper Co., S. A., the paper export unit of the organization. In these articles, published in graphic arts journals, Mr. Cobean marshaled a number of logical arguments in favor of the uniform standard for all paper and board based on the decimal system.

On the ballots it was clearly specified that it was unnecessary to sign names, yet less than two per cent of the ballots were returned unsigned and many company officials emphasized their vote by additional remarks of support and urging immediate action.

Engineering Staff Changes At Longview Fibre

Since resignation of Dewey Rigg as maintenance engineer at Longview Fibre Co., Longview, Wash., a reshuffling of duties and regrouping of personnel has resulted in the following assignments:

Virgil M. Sutherland became chief engineer; Dade Russell, assistant chief engineer; Virgil Peters, maintenance engineer; Ralph Wayne, chief draftsman, and John Schuk, chief power and steam engineer.

Phil Nash Moves To San Francisco Post

Philip C. Nash, office manager, Port Angeles, Wash., division of Fibreboard Products Inc., has been transferred to the general offices in San Francisco and his successor in Port Angeles is H. V. Morris.

Succeeding Mr. Morris in his position as accountant in the Port Angeles mill is R. G. Seaward. G. M. Marvin resumed his former position as purchasing agent after serving for a year as machine tender.

Associates of Mr. Nash gave him a farewell dinner party at the Salmon Club in Port Angeles on May 11, with a high jinx program in which he was the "goat" of much friendly banter.

Al Lang Promoted To Assistant Superintendent

Al Lang has succeeded William Dynes as assistant superintendent at Pacific Coast Paper Mills of Washington, Inc., Bellingham, Wash., it is announced by F. J. Herb, vice president and general manager.

Mr. Dynes is joining a brother in a chicken hatchery enterprise in Mt. Vernon, Wash.

Mr. Lang is one of the oldest employees of the tissue mill and, previously having been machine tender for a long period, was directly in line for the promotion.

Hyer Is Vice President; Other Black Clawson Changes

Allan Hyer has been appointed vice president as well as sales manager of Black Clawson Co., Hamilton, O. His return to the sales position he had previously held in Hamilton after his resignation as chief of the distribution section, Paper Division, War Production Board, was reported in the April issue of PULP & PAPER INDUSTRY (p. 54).

Tom Latimer, who joined Black Clawson as sales engineer, has been appointed chief engineer.

L. O. Kiehborth, who served as auditor for Black Clawson Co., Ohio; Dills Machine Works, and Shartle Brothers, has been appointed secretary.

Peter Jerardi, who came to the company from the International Paper Co., has been appointed production manager at Hamilton.

Company Sponsors New Type of Study Group

The Kraftman Group, a company-sponsored organization of supervisors, foremen and key men of the Longview Fibre Co., Longview, Wash., is now functioning as a study group, according to Carl Fahlstrom, assistant resident manager of the company. A once-a-month dinner meeting is held, at which time mill conditions, company rules, labor relations, employee training, housekeeping, safety, health, recreation and training are studied for the purpose of disseminating facts and information concerning the company.

The name was picked in a contest routine, and proposed by Dade Russell, chief draftsman, who received a prize. There are no officers. The arrangement committee consists of C. J. Page, M. Price and Boyd Wickwire. The program committee consists of Carl Fahlstrom, Al Parson, W. J. Shelton and H. J. Danterman.

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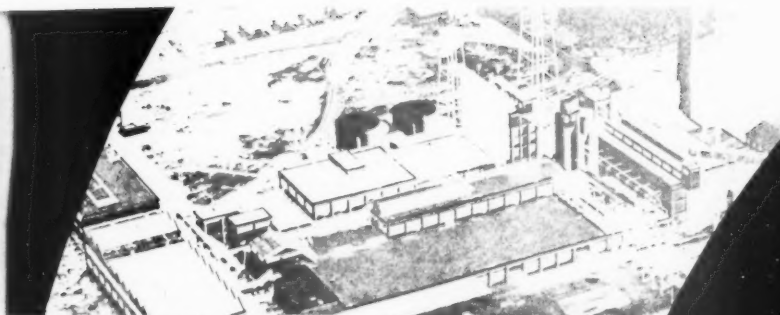
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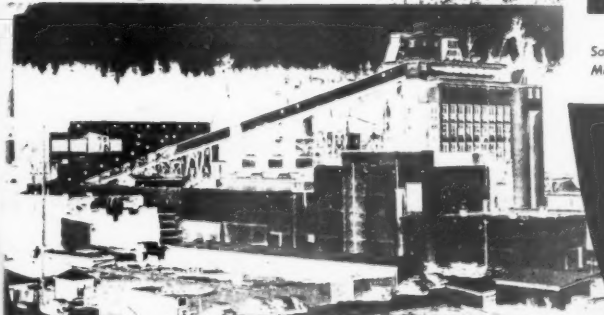
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Scott Enters Waxed Paper Field, Acquiring New Jersey and Ohio Plants

Scott Paper Company has entered the waxed paper field and has added a two-ply facial tissue to its line-up of consumer household products by the recent acquisition of the Automatic Paper Machinery Co.

This important transaction points up the increasing interest and importance being given in the paper industry to the forecasts of expanding postwar facial tissue and waxed paper markets and the activities of other companies in those lines.

The transaction is one of several recent major moves by Scott to implement an announcement it made that it contemplates "a greatly expanded business, complete renovation and probably extension of present plants and possible acquisition of new facilities."

Acquisition of all the assets of Automatic Paper Machinery Co., makers of Cut-Rite wax paper and San Fay facial tissue, included papermaking equipment at Milford, N. J., and converting facilities at Hoboken, N. J., and Sandusky, O., according to an announcement by Raymond C. Mateer, vice president of Scott Paper Co.

Stockholders of Automatic Paper Machinery acquired in exchange 136,840 shares of Scott common stock, bringing that company's total outstanding common shares to \$804,796 and leaving the balance of 1,000,000 authorized shares unused. Scott has outstanding 29,780 shares of \$4.50 cumulative preferred and 30,000 shares of \$4 cumulative preferred.

R. H. Rausch, president of Automatic Paper Machinery Co., and one of the founders of the Cut-Rite packaged waxed paper line, largest selling household waxed paper, has been made a vice president and director of the Scott organization.

This is the second important recent addition to Scott Paper Co., whose main operation is at Chester, Pa., but who have pulp and paper mills in all principal industry regions of the U. S. and Canada.

Ft. Edward to Reopen

In December, Scott purchased the International Paper Co. paper mill at Fort Edward, N. Y., and plans to have it in operation again by October 1 of this year, presuming that adequate pulp is available by then. While it makes its own pulp in the South, on the Pacific Coast



LEO A. WILLOUGHBY, who has charge of the new coating process being introduced at Minnesota & Ontario Paper Co., International Falls, Minn. The paper coating process is to be extended at that mill from its present pilot plant stage.

Mr. Willoughby went to M & O from Bryant Paper Co., Kalamazoo, Mich., where he was Superintendent of the Coating Division.

and in Canada, Scott also is normally an important user of Swedish pulp and imports are expected shortly.

No official statements have been made regarding the subsidiary sulphite pulp mills at Anacortes, Wash., and Coos Bay, Ore., but one or both of these mills presumably figure in the company's announced plans for "renovation" or "extension" of present plants. Recent timber acquisitions in the west and the fact that there has been no opportunity to modernize or expand these mills in years are important considerations.

Francis W. Plowman, general sales manager of Scott Paper Co., announced that the R. B. Davis Sales Co. will continue to handle sales of Cut-Rite and San Fay lines until Aug. 1, when Scott will take over complete distribution. Cut-Rite and San Fay are distributed through the same wholesale channels and retail outlets as Scott products. No immediate change in marketing policies affecting these products is contemplated.

Mr. Plowman stated that Scott Paper Co., in this transaction, is making another step in the expan-

sion program which in recent years resulted in acquisition of three paper mills and two pulp mills, in addition to interests in other mills, by the company or its subsidiaries.

Scott Mill Gets Timber

Five hundred acres of land embracing 25,000,000 feet of mixed timber in the Racehorse Creek district northeast of Deming, Wash., have been purchased by Coos Bay Pulp Corp., from La Plant Morgan & Gates, loggers, Anacortes, Wash., subsidiary of Scott Paper Co.

Companies Use Own Planes In Executive Trips

• Hercules Powder Co. has purchased a twin-engine, 5-passenger, low-winged Beecher's monoplane for the use of its executives travelling on war work. One of the big paper companies has a similar plane in use for its executives and is building airfields at its several mills in anticipation of extensive company use after the war.

Swedes "Concerned" Over U. S. Pulp Advances

Swedish pulp and paper officials "are concerned over the great progress made by North American mills during the war and are bending every effort to meet the competition by plant developments and product improvements."

That statement is made in the World's Paper Trade Review of London, and it names as its authority, Dr. E. G. Jahn, of New York State College of Forestry, Syracuse, N. Y., who was a guest in England during the past year as well as in Scandinavian countries. Dr. Jahn traveled as a representative of the U. S. Department of Agriculture.

By now there are many U. S. and Canadian industry leaders who have heard the talks made by Dr. Jahn about his trip. He has made it clear that Swedes have devoted much money and effort during the war to research and improvements of their pulp products.

Rogers Corp. Is New Name of Connecticut Firm

Rogers Corporation is the new name of Rogers Paper Manufacturing Co., Manchester, Conn., which operates mills at Goodyear (three wet machines) and Manchester (one wet machine) in that state and both on the New Haven railroad line.

This company has been a pioneer in making board specialties using resins and recently sent PULP & PAPER INDUSTRY some examples of its tough phenolic impregnated boards, strips and blanks. The products made from these materials by plastic molding trade include telephone pieces, machetes, navy training bayonets, etc.

Officials of Rogers Corp. include William H. Raye, president, S. M. Silverstein, vice president and general manager, and R. A. St. Laurant, vice president in charge of sales. S. A. Brown is production manager.

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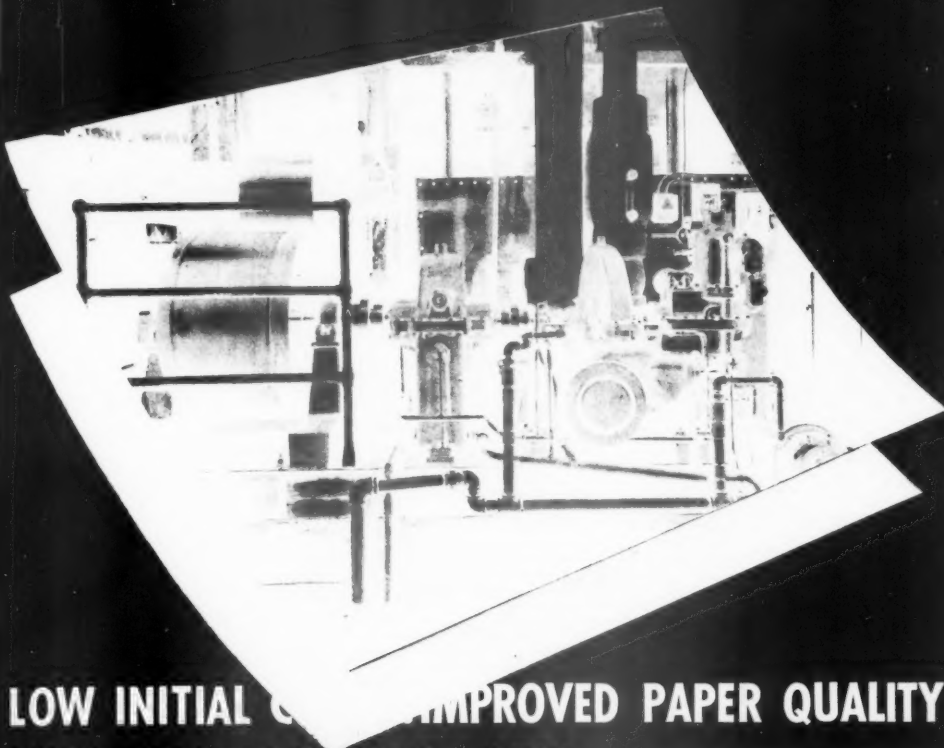
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Northwest Mills Again Making All Nitrating Pulp

Nitrating pulp which had been made in two Louisiana mills is no longer wanted for firing Army guns and, therefore, the entire production of this essential type of woodpulp is again thrown entirely upon Washington state mills, according to J. Phillip Boyd, director of the Lumber and Lumber Products Division, Forest Products Bureau, War Production Board.

Mr. Boyd made this disclosure in speaking before the regional WPB advisory committee of western lumber manufacturers in Portland, Ore., March 4, where recommendations for relaxation of WPB controls were discussed.

Many months were spent in seeking to make a satisfactory nitrating pulp from the bleached kraft product, in order to relieve the heavy load imposed on the Washington state sulphite mills.

The sulphate process was almost as expensive as cotton, according to reports in the industry, but a certain hardness in the sheet and high percentage of silica were adverse factors. It was found more difficult to shred the sulphate pulp, a necessary process in the making of smokeless powder. The experiments led to what is believed to be the first production of dissolving sulphate pulp, even though for only a temporary period, and the result does not necessarily rule out the possibility that some day Southern mills may be making a dissolving pulp.

As revealed by authority of the Ordnance department of the army, the mills in Washington now making all of the wood pulp for the U. S. army's smokeless powder are the Weyerhaeuser Timber Co. mill at Longview, the Soundview Pulp Co. mill at Everett and the Rayonier mill at Hoquiam, and, scheduled to be added to the list in a few months are the Weyerhaeuser mill in Everett and the Rayonier mill reopening in Shelton. They are producing all of the pulp material for firing all medium and large U. S. army guns. In fact, they are producing several times the 1942 output of this pulp for propellants and more than 60% of the total for all types of weapons. The remainder is made from cotton linters pulp.

Lebanon Mill Visited

The Lebanon, Ore., mill of Crown Zellerbach corporation was visited on May 1 by Glen Voorhies, associate professor of wood products, Oregon State College, and a group of some 40 students who are specializing in business and industrial courses at the college.

Fire At Port Alice

Pulp making at the Port Alice mill of B. C. Pulp & Paper Co. was resumed about mid-May following a brief shutdown due to fire which broke out April 11 and caused some damage. Loss was estimated at \$150,000.

Bill Zellerbach Home

Lt. William J. Zellerbach, USNR, son of Harold L. Zellerbach, president of the Zellerbach Paper Co., San Francisco, is back home enjoying a leave, after seeing action in the Pacific — the last being Okinawa.

Myron Black Is Visitor

Myron Black, assistant manager, Inland Empire Pulp and Paper Co., was a visitor in Seattle on June 8.



A. S. MOODY, Commercial Vice President and Manager of General Electric Co. in the Pacific Northwest, who has been appointed to the President's staff of the company.

Bob Bundy Visits Former Home in Port Angeles

Robert E. Bundy, vice president and general manager, Federal Container Co., West Philadelphia, a unit of Fibreboard Products Inc., and Mrs. Bundy recently visited the Pacific Coast.

Mr. Bundy attended the annual sales meeting of the Fibreboard organization in San Francisco. The couple also were in Port Angeles, Wash., their former home, for overnight. Mr. Bundy was former manager of the Fibreboard mill there.

Safety Campaign At Camas

In an effort to make June the first "no-accident month" at the Camas, Wash., mill of Crown Zellerbach Corp., J. F. Robertson, safety and personnel supervisor, has placed attractive warning signs all over the mill and has appointed a number of foremen as assistants to the supervisors in keeping safety alive in the minds of the men.

The supervisors whose duty it is to keep down the accident record are L. R. Mullineaux, steam plant; C. Arnold, shipping operations; H. E. Burdon, office; Fred Sievers, groundwood mill; and W. C. Jacoby, technical department.

The foremen assist in departments where they are not ordinarily employed. Assignments follow: C. I. Knapp, sulphite mill, converting plant and napkin department; C. M. Koplin, paper mill and beaters; Lex Smith, finishing, bag factory and printing department; C. B. O'Dell, yards, electricians, chipper and kraft; F. W. Palmer, wood mill, shops and construction; and Ben Reed, steam plant, shipping, office, ground wood and laboratory.

Newmark Married

Allan R. Newmark, assistant manager, printing paper merchandise dept., headquarters division, Zellerbach Paper Co., San Francisco, is back at his desk after a 72-day trip east, during which he visited paper mills in New England and Wisconsin. Mr. Newmark was married in Cincinnati, and brought his bride home.

Whit Morden Makes Cross Country Tour

C. W. Morden, of Morden Machines Co., Portland, Ore., who recently made a cross-continent trip through the U. S. and Canada, said much interest was evidenced at all mills in new equipment, and a lot of thinking was being done along new lines of mill procedure in the direction of increasing the use of continuous production methods. In one instance he indicated that thinking had gone so far as to consider the matter of starting with wood and finishing with paper all in one continuous operation, including the production of pulp and its stock preparation treatment. Farther, as regards stock preparation, he believes there is much thought being devoted to the problem of separately and continuously treating the component pulps of mixed furnishes, particularly where these pulps have distinctly different treatment characteristics.

He stated that he shared with all others a general feeling that there are large volume years ahead for the industry. He believes, further, that management in the industry, generally, faced with many problems, is meeting these problems with resourcefulness, and is constructively planning ahead for extensive mill improvements, better production methods, new qualities in paper, and a wider use in variety of fiber.

Son in Philippines

H. J. Smith, secretary of Lindsay Wire Weaving Co., Cleveland, O., has a son in the Philippines who has had a long term of service in the army in the Pacific, having been 11½ months on Bougainville.

Bob Baum Returns To Fernstrom Mills

Robert A. Baum, assistant technical director, Fernstrom Paper Mills, Pomona, Calif., has been carrying on a year's temporary work with Orange Products Co., Ontario, Calif., where he has been doing research work on the treatment of citrus papers. He returns to his job again at the Pomona mill.

U. S. Envelope President

E. V. Johnson, president of the United States Envelope Corp., Springfield, Mass., was a recent Pacific Coast visitor.

Simons Buys B. C. Home

Howard Simons, engineer in charge of construction of the new Bloedel, Stewart & Welch pulp mill, which is being built at Port Alberni, B. C., has bought a home on Marine Drive in Vancouver, B. C., and his family has moved there from Seattle.

Hood Is Personnel Manager

The personnel manager of Hawley Pulp and Paper Co., Oregon City, Ore., Charles A. Fox, resigned April 15. Fox had held the position 12 years. Carl E. Braun, mill manager and vice president, announced appointment of Charles S. Hood, head timekeeper, to fill the vacancy.

Tom Beaune Has Operation

Tom Beaune, sulphite superintendent, Port Angeles, Wash., division, Fibreboard Products Inc., is back on the job after an operation recently for hernia.

PASC Elects California

Richard S. Buckle, Fernstrom Paper Mill, into the shoes of I production manager acts Co. as chairman Associates of South annual election director Los Angeles, April members and guests

John Van Oune Flintkote Co., was man; while Robert Mills, succeeded B Vernon div., Fibre as secretary. A new is composed of Wil S. Gypsum Co.; M torma-Oregon, Pa Wheelock)

Retiring Chairman a standing vote of the association their ceasual year and efficiency to the last tential records all ne successor.

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Conservation

By William G.

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PASC Elects Buckley President and Hears California Colleges May Teach Papermaking

Richard S. Buckley, technical director, Fernstrom Paper Mills, Pomona, stepped into the shoes of Frank H. Wheelock, production manager, Fibreboard Products Co., as chairman, Papermakers and Associates of Southern California at the annual election dinner, Rosslyn Hotel, Los Angeles, April 19. There were 34 members and guests present.

John Van Ounsem, Pioneer division, Flintkote Co., was chosen vice chairman; while Robert A. Baum, Fernstrom Mills, succeeded Bruce F. Brown, Jr., Vernon div., Fibreboard Products Inc., as secretary. A new executive committee is composed of William G. Hartford, U. S. Gypsum Co.; Merle Dorman, California-Oregon Paper Mills, and Mr. Wheelock.

Retiring Chairman Wheelock received a standing vote of thanks for leading the association through its fourth successful year and Mr. Brown proved his efficiency to the last by having the secretarial records all neatly packaged for his successor.

Final reports of committees were received. Educational Chairman Baum reported the possibility that two Southern California colleges would institute short courses in papermaking after the war. Charles G. Frampton, Fernstrom Mills, told of progress being made with completion of data looking to the eventual publishing of the history of Pacific Coast papermaking.

The program, under the chairmanship of George M. Cunningham, National Oil Products Co., was in its two customary parts. The first was devoted to a continuing of the round table discussion on "Paper Mill Maintenance," led by William A. Kinney, production manager,



AT PASC MEETING (left to right): Frank H. Wheelock, retiring Chairman; Richard C. Buckley, his successor; Robert A. Baum, new Secretary; Merle L. Dorman and William G. Hartford, executive committee. Mr. Hartford gave the paper published with this article on ways to conserve resin. The new Vice Chairman, John Van Ounsem, was absent.

Flintkote. The second was a paper, "Size and Size Substitutes," by Mr. Hartford.

The round table discussion brought practically every member present into it as three phases of mill maintenance were explored: "Experiences with reversing jords and other problems," "forced-feed lubrication versus grease with dryers" and "best practical methods for removing black-out material from plant windows."

The necessity facing mills of using only 70 per cent of the resin quota of 1944 made Mr. Hartford's paper of timely value. (It follows this article.)

Present at the meeting included Messrs. Buckley, Baum and Frampton and James D. Rhodes, Fernstrom Paper Mills; Messrs. Wheelock and Brown, G. E. Eberhard, Allen Rydall, Fibreboard

Products; Mr. Kinney, Grover C. Brown, Howard Bidwell, John W. Flannigan, Robert E. Cooper, Jerry H. Setinsky, Pioneer-Flintkote; A. H. Hatch, Allan G. Strang, Ernest C. Hill, Merle L. Dorman, Joseph C. Bancel, California-Oregon Paper Mills; R. W. Stevens, West Coast Paperboard Mills; Claude M. Sharp, West Coast Paper Mills; George M. Cunningham, National Oil Products Co.; Gordon G. Halvorsen, William R. Monette, Dicalite Co.; D. Erle Arnett, Magnus Chemical Co.; W. G. Hartford, U. S. Gypsum Co.; Lloyd I. Ramsey, Adhesive Products, Inc.; Francis L. Mark, Western Asphalt Ass'n.; Paul M. Lockwood, Lockwood Robin Corp.; D. V. Gayton, Peter Cooper Corp.; C. P. Linker, Stein, Hall & Co., and Eddie Benz, Kelco Co., the last a new member.

Conservation of Resin in Sizing Paper

By William G. Hartford

I realize that the subject of sizing paper is a controversial one and that many of you may disagree with some of my statements. However, I am sure that all of you will agree that at all times the conservation of resin is important not only from a cost standpoint but also from the standpoint of improved operating performance resulting from the use of as little resin as is possible. Now with the government order reducing resin consumption to 70% of 1944, in effect conservation is not only desirable but mandatory.

Since it is unlikely that any of us can reduce consumption by 30% without sacrificing desired results, it is probable that some substitutions will have to be introduced. Nevertheless a good portion of the reduction can be attained at almost any mill by a vigorous attack on the problem.

Finished Product Testing—Most of us have minimum specifications to meet as to the degree of waterproofing required in the sheets being made. I suggest that you study each sheet you make with the purpose of establishing not only the lowest minimum your customer will accept but also the highest maximum that you can accept from your operators.

Often times in testing for waterproofness, when the sample being tested passes the minimum specification, the tester marks O.K., or so many minutes plus and ends the test. Insist that the test be carried to the end point and be as critical of exceeding the maximum as you are of falling below the minimum.

This requires close control of your operations and brings us to the next subject for discussion.

The Use of Size and Alum—It is my belief that the practice of adding size and alum in the beaters is obsolete. I believe in the theory that to render a sheet waterproof the resin size must envelop each individual fiber and be precipitated there by alum. It follows then that, for best efficiency, the size should be thoroughly mixed with the stock after or during the final refining operation and certainly the alum should be withheld until the stock is fully prepared. To insure thorough mixing of the size with the stock, I recommend that size always be used in liquid form and diluted to a consistency of 4½ to 5½. As a suggestion, it can be fed continuously in the Jordan head box using a rotameter to accurately measure the flow. If you purchase size in dry form, mix it

with water to feed it. If your size is received in tank cars as 70% solid, emulsify to a 4½ consistency. In one mill that I have intimate knowledge of, size was being "blown" to a consistency of 12% and fed to the beaters through measuring tanks where a certain number of inches were used to each beater of stock. The consistency was changed to 10% then to 8%, and it was not until the 6% figure was reached that more inches in the measuring tank had to be used to maintain the degree of waterproofness desired. Here was a saving of 30% by one simple move.

Alum too should be fed in liquid form and the use of rotameters provide an accurate means of measuring and controlling the flow. Alum should be added just as late in the system as possible to permit making quick changes and to give maximum assurance that the resin is thoroughly mixed. This practice will also help reduce foam and protects your refining equipment from the injurious effects of the acid released from alum.

Control Testing—To maintain reasonably close limits between maximum and minimum final results requires a certain amount of control testing. The



most valuable is the PH test which should be taken on the raw stock before size is added and in the vats or flow box. The PH of the raw stock should always be above 7.0 and where a closed system is used, it may be necessary to add an alkali to the stock. Soda ash is the most common and serves the purpose well enough. It is important to use enough alum to insure that all of the resin is used up and it is often necessary to run the PH at the vat as low as 7.0. If this low PH gives trouble from foam or makes the sheet hard to dry or results in a brittle sheet that does not fold satisfactorily the condition can be overcome by the addition of sodium aluminate to the raw stock. Ordinarily one pound of sodium aluminate will replace three to four pounds of alum and will usually make the use of soda ash unnecessary.

The total acidity test of the vat or tray water has been found of value in some instances. It has been found that even with normal PH values if the total acid in the system builds up beyond a certain point that sizing is affected adversely.

Foam. Any foam killer you use or plan to use should be investigated as to its effect on sizing. Kerosene or distillate should never be used in a sheet that is being waterproofed as it will invariably greatly increase the amount of resin needed to accomplish the results needed. It is always best to control foam by mechanical means: baffling to use up foam, venting and reducing turbulence. A careful study of your own conditions will reveal the combination of size, alum and other chemicals necessary to keep foam to a minimum.

Selection of Stock.—Some stocks are hard to size, others are easy. Used newspapers and magazines are among the most difficult. Kraft papers and pulps are probably the easiest sized stocks. If you are attempting to size a solid news sheet or a news liner and conditions will permit, the use of 10 or 15% corrugated will help.

Used bags containing gypsum, lime or cement when used only to a limited degree will effectively kill all of the size normally used in many sheets. These stocks should be avoided in sheets being sized or should be thoroughly washed before being used.

Substitutes.—It has been found that various waxes or wax combinations can be used, replacing up to approximately 50% of the resin normally added without seriously affecting mullen or tensile strength. Ordinarily one pound of wax will replace two or possibly three pounds of resin. These figures will depend on local conditions and will vary widely from mill to mill.

One of the manufacturing companies has introduced a highly refined resin size that in some cases will itself permit a reduction in consumption of 20% or more, but I understand it is available in very limited quantities.

Calender sizing with wax, resin and starch combinations offer great possibilities where only surface sizing is needed. Many sheets that are sized only to prevent penetration of printing ink can undoubtedly be satisfactorily produced in this way.

I feel confident that the paper and board industry can by study and application of good practices meet the new requirements imposed by the resin shortage without adversely affecting the quality of their products.



HARRIS R. FENN, JR., Resident Manager, Portland, Ore., office, National Aniline Div., Allied Chemical and Dye Corp., who took over when Roy S. Carey went east to Philadelphia branch of the company. Mr. Fenn, graduate of Lowell Textile Institute, Lowell, Mass., joined National Aniline in New York and after some years there, moved to Buffalo, where he traveled for 7 years over the western New York, Pennsylvania and Ohio.

When George Hardy Moves —That's News!

George F. Hardy, pulp and paper industry consulting engineer moved his New York offices on May 4 to the 15th floor at 441 Lexington Ave. (corner 44th St.), New York 17. The telephone: Vanderbilt 6-4144 and 4145.

Mr. Hardy's offices had been at 305 Broadway for the past 44 years.

V-1 Boxes Out But V-2s and V-3s Are Made

Manufacture of V-1 boxes—the strongest type used for overseas shipment for Army, Navy and War Food Administration was declared officially discontinued last month. But long before this announcement, major mills in this field had discontinued the expensive box, which utilized wet strength resins, according to information reaching this magazine.

The V-2, also resin-treated, has proved entirely adequate and millions are being used each month. The main differences were in design and size. V-3 boxes are also continued. The lower categories, because of lower cost, are expected by paper industry executives, to have the best chance of postwar survival.

Elect Officers

R. C. McMichael was made chairman of the board and Elliott M. Little, president, of Anglo Canadian Pulp & Paper Mills at the annual meeting recently in Quebec City. H. G. Bartholomew is first vice president and W. G. Clarke, second vice president; G. H. Bridge, secretary-treasurer.

S. J. Humphrey was elected chairman of the board of the subsidiary Gaspesia Sulphite Co.; E. M. Little, president; W. G. Clarke, vice president, and G. H. Bridge, secretary; P. Robitaille, treasurer.

Tinker Objects To OPA Methods

Commenting upon some shortages in the paper field, E. W. Tinker, executive secretary of the American Paper and Pulp Association, stated today that "these were directly attributable to policies of the Office of Price Administration."

He stated that "there has been an unusual economic phenomenon in the paper industry since 1941. This phenomenon involved a steady increase in sales accompanied by an equally steady drop in profits. Under OPA pricing policies, which are really directed to the control of profits, shifts in production of different grades of paper have been forced, which has resulted in acute shortages in individual grades. The entire situation is fundamentally due to the policy of OPA in considering over-all profits, rather than the profit situation with respect to individual items manufactured."

"This has created unnecessary hardship among the customers of the paper industry and proved embarrassing to the manufacturers of paper," he said. "And if the present trend continues, production on an over-all basis will be adversely affected. The only other recourse would be the payment of a considerable subsidy schedule in order that manufacturers of paper might make the grades required in our economy."

He said that "the paper industry had no quarrel with the general objectives of the Office of Price Administration, but the industry was being forced into an almost impossible situation, with an increase of 50 per cent in labor costs per ton of paper, in addition to drastic increases in the costs of raw material." His comments were inspired by a recent article by J. R. Atwater, price executive, Pulp and Paper Products Branch, OPA.

Overall OPA Committee Meets

The second meeting of the recently formed Overall Pulp and Paper Industry Advisory Committee was held June 12 in Washington. J. Ronald Atwater, head of the Pulp and Paper Price Branch of OPA and formerly with Mead Corporation, expressed himself as pleased with progress of the committee since its first meeting April 18. He expected that it will be of great value in the present difficult transition period.

Longview Bowlers End Their Season

The Longview Fibre Co.'s bowling league closed its 9th annual season on play with a banquet at the Longview-Wash. country club April 25. Second half final team standings follow:

Team	Won	Lost	Pct.
Machine Room	36	20	64.6
Mechanics	35	21	62.1
Office	33	23	58.9
Box Plant	27	29	48.1
Bag Plant	36	30	46.4
Supervisors	26	30	46.4
Pipefitters	21	35	37.5
Pulp Mill	20	36	35.7

The Machine Room defeated the Mechanics, first half winner, in a playoff. E. L. Buckley (Machine Room) scored high single series, with 697; Pat Leedle (Pipefitters), had high single game, with 271.

Fred Graham was elected president, Pat Leedle, vice president and C. A. Davis, secretary-treasurer.

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It is neither the name ESCO has the Pulp Industry stainless steel engineering a result of ESCO work in introducing mills where a long sought and

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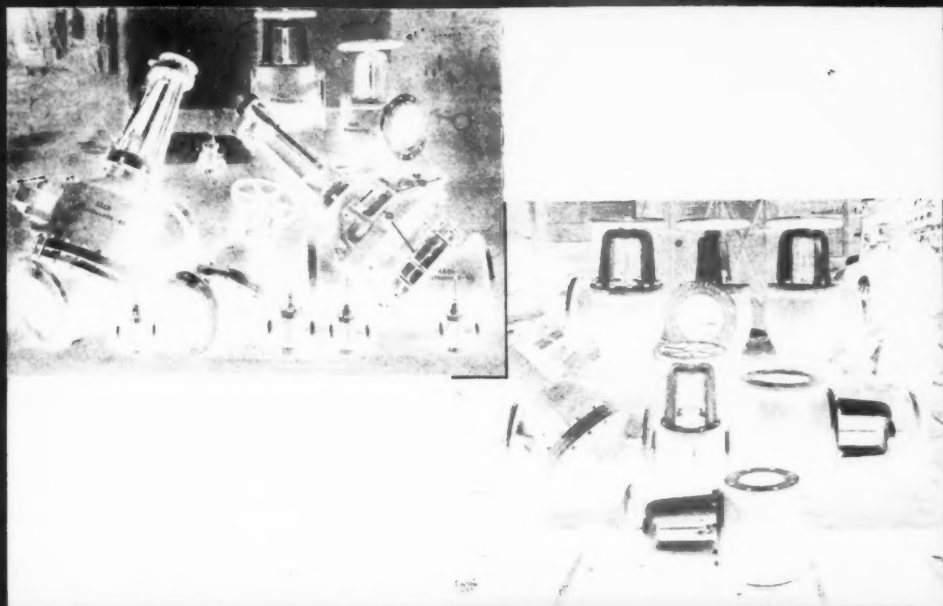
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It is neither through accident nor luck that the name *ESCO* has become a "household" word in the Pulp Industry synonymous with highest quality stainless steel specialty equipment, and superior engineering service. It comes about rather as a result of *ESCO*'s pioneering research and early work in introducing stainless steel to the pulp mills where a corrosion resisting material was long sought and badly needed.

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Future Timber Is Theme of West Linn Dinner-- Paper Shortage May Be Even Worse 5 Years Hence



PIN DINNER FOR WEST LINN DIVISION of Crown Zellerbach Corp. was held evening of May 17 across river at Oregon City, Ore.

Above (left to right): Louis Bloch, board chairman and 52-year veteran, with five 45-year pin winners: Al Bolton, Ed Frederick, George Howell, William Peters and Frank Hammerle. Two other 45-year men not in the picture are Charles Hamner and Elmer Hendrickson. Clarence Bruner, West Linn Resident Manager, has been 48 years with the company, and that's really adding up to a lot of years!

Below (left to right): Frank Zeilinski receives 20-year pin and congratulations from Mr. Bloch while between them, J. A. Ream, Personnel and Safety Supervisor, prepares to call another name on the list of awards. R. A. McDonald, Executive Vice President, foresees prosperous years ahead, and Ed Stamm, Logging Manager in Portland, Ore., area, warns the crucial years of forest husbandry are ahead.

A one-year-old Port Orford cedar tree stood before plates of each and every guest at the Crown Zellerbach Corp. service pin dinner for the West Linn division employees held last month in Oregon City, Ore. Everyone was urged to take his tree home and plant it.

Future timber of the pulp and paper industry was the theme of the principal address given by Ed Stamm, logging manager for the company in Southwest Washington and Oregon. He said "the big hurdle" in establishing a perpetual timber supply for forest products industries would be met during the next half century.

Louis Bloch of San Francisco, chairman of the board, presented pins to 61 employees for service periods of five to 45 years. Recalling that Crown Zellerbach Corp. had returned over \$2,000,000 "profit" from the machine shop program of war work to the United States government.

"Other companies, animated by the same feelings, have doubtless done the same thing," said Mr. Bloch. "It is not

my government or your government, but our government, and we returned the profits because shipbuilding is not our business."

R. A. McDonald, executive vice president in charge of sales, interpreted the recent Department of Commerce survey of future world pulp and paper requirements as showing that "we face an even worse shortage of paper in the next five years than the one we now face." This survey was published in the February issue of PULP & PAPER INDUSTRY and was reviewed in last month's North American Review Number.

"There isn't a place in the world that isn't crying for paper," he said. "We do not look for any slowdown in the paper business, and our situation has never been brighter than in the next few years."

Referring to a statement by Mr. McDonald that there are sales representatives everywhere in the world except Japan, Mr. Stamm said "but you understand there are a lot of good papermakers on their way over there!"

Looking to 2,000 A.D.

Mr. Stamm predicted that all cutover lands of today would have new crops of trees by 2,000 A. D.

"Legislation now provides that seed trees must be left," he said. "But Mr. Bloch and others saw to it that some 50 years ago cottonwood trees were planted on either side of the Willamette river as far south as Corvallis. Some of these trees have since been harvested."

Our mills have grown so much that now it will take a strip of timber 10 miles wide from here to Eugene (about 100 miles) to supply one mill until 2000 A. D. Yet the company has acquired substantial timber areas sufficient to place the timber supply on a sustained yield basis, and at the same time the research division is working on the problem of processing many types of trees hitherto not considered to be pulp species."

Otto R. Hartwig, safety director, urged all employees to lend their experience to returning veterans to teach them caution "because they can be injured as easily in a factory as on a battlefield." Over 90 per cent of accidents, he pointed out, result from man failure, and knowing this, everyone must do his share to make the places we work, the highways, and our homes, places of safety.

William D. Welsh, executive assistant, San Francisco, acted as toastmaster.

Service Pins

Seven men received 45-year pins: Al Bolton, Chas. Croner, Ed Frederick, Frank Hammerle, Elmer Hendrickson, George Howell, and William Peters. They were outranked in length of service by only two other present, Mr. Bloch, a 52-year veteran, and Clarence E. Bruner, West Linn resident manager, a 48-year man. Other awards were: Frank Driskell and John Rauch, 40-year pins; Jack W. Draper, Carl Maritz, James B. Patterson, Tom Patterson, Sr., Louis Planton, Sr., and George Taves, 35-year pins; Anton Bauer, Anton Fitzko, John V. Gawlista, Chas. Guynes, Erik Hedlund and Albert Hopp, 30-year pins; Harry L. Bond, Harley N. Brower, Joseph Courtney, Guy Cross, John Ditter, Wm. H. Geiger, Chas. J. Hull, Val Kmetz, Wm. W. Laurie, Ted Lilly, John L. Moore, Wm. Murphy, James M. McLannan, Arthur Palmer, James C. Platts, E. E. Riley, Wm. F. Schunk, Leo Zak, 25-year pins; W. S. Bouwell, Fred O. Cooke, Albert Frank, Herman Hansen, Walter Hodgkinson, E. F. Jackson, Lester Jackson, Rainer Kvilo, A. R. Lindsey, Alfred H. Lytle, E. H. Mollert, Arvid Simonson, Clyde Smith, R. F. Stroup, Magnus Svensrud, Norman A. Turner, Frank Zeilinski, 20-year pins; Joseph Brazney, Joe Davis, Joe Heilbach, Marvel A. Huxel, Jan Hugerod, Bert M. Hoover, F. J. Kendig, Edward H. Nunn, M. R. Persyn, Henry Rover, 15-year pins; Otho Cranor, Charles Laurs, Jr., Louis Schaber, ten-year pins; and F. R. Benfield, Wm. Boeynska, Donald C. Cross, Albert Eckert, Ted Eckert, Adam P. Endres, Fred W. Hoffman, Earl R. Latham, Fred R. Schamborn, Northrup H. Solem, Vernon J. Toman, five-year pins.



HEADQUARTERS I had its own service pin with Executive Vice President. Outlining theories, he said Crown strip, would extend for

President J. D. Zelle MacDonald presented with each of them. Pin recipients show parenthesis):

Hemlock

About 40 million cords of timber, most been killed in Clatsop by the western hemlock scientifically called *Elk lugubrosa* Hulse. Last this infestation is met that this looper is a species of moth, death and he stands from it Newfoundland, should noted. The pulpwood and used within two comes worthless.

The state of Oregon peculiar pattern of ow forested areas, has had relative to insect control. Now the state to establish control action becomes evident, of costs to property of. The state directs action the remaining 25% co-

Largest area of infestation the Necanicum river. Beach road and as far near the town of Car other area lies between Lewis and Clark r-

At 85% of the at belongs to Crown Zelle Brandstrom, chief foreman, and his staff, are interest in the project, 15% of the land falls of the state, the city of ens Pulp & Paper Co., and George Van Fleet.

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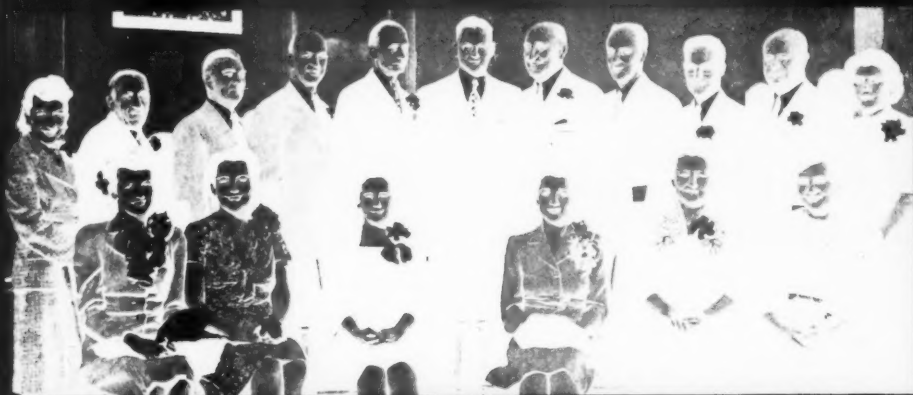
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HEADQUARTERS DIVISION of Crown Zellerbach Corp. had its own service pin celebration May 4 in San Francisco with Executive Vice President R. A. MacDonald as principal speaker. Outlining the company's timber conservation policies, he said Crown Z timber, if it were in a one-mile wide strip, would extend from Portland, Ore., to San Francisco.

President J. D. Zellerbach, Chairman Louis Bloch and Mr. MacDonald presented the pins to the employees associated with each of them. Pin recipients shown above (with years of service in parenthesis):

Standing (left to right): Abbie Martin (20), Isaac Pira (5), Ray M. Dickey (30), Russell Cline (10), L. J. Arms (30), Elmer J. Hughes (20), G. E. Young (20), Millard Rawlings (15), F. L. Gillespie (15), R. J. Coughlin (15), and Wilhelmina Hannson (5).

Seated (l. to r.): Esther Cook (5), Ruth Miller Leedy (15), Emily Inglis, secretary to Mr. Bloch for many years (30), Iris Nomellini (5), Ruth Shaw (20), and Antionette Barr French (25). Thomas McLaren (15) was not present.

Hemlock Looper Kills Oregon Pulpwood

About 40 million board feet (80,000 cords) of timber, mostly pulpwood, has been killed in Clatsop County, Oregon, by the western hemlock looper—a moth, scientifically called *Eliopha fascellaria* var. *lucubra* Hulst. Less anyone conclude this infestation is merely local, the fact that this looper is a local variety of a species of moth destructive to hemlock and fir stands from the Pacific coast to Newfoundland should be immediately noted. The pulpwood must be recovered and used within two years or it becomes worthless.

The state of Oregon, because of the peculiar pattern of ownership in the infested areas, has had to alter its statutes relative to insect control to meet the situation. Now the state forester is enabled to establish control areas where infestation becomes evident, and assesses 70% of costs to property owners in the area. The state directs action and shoulders the remaining 25% cost.

Largest area of infestation lies between the Necanicum river and the Cannon Beach road and as far west as Elk creek near the town of Cannon Beach. The other area lies between the Necanicum and Lewis and Clark rivers.

As 85% of the affected timberland belongs to Crown Zellerbach Corp., Axel Brandstrom, chief forester for that company, and his staff, are taking an active interest in the project. The remaining 15% of the land falls under ownership of the state, the city of Seaside, St. Helens Pulp & Paper Co., W. B. Hollenbeck and George Van Fleet.

The outbreak first came to the notice of W. F. McCulloch, assistant state forester, during a trip along a Crown Zellerbach logging road, in October, 1943. But others who followed up the report

failed to substantiate the findings. Defoliation did not become evident until late last summer. Crown Zellerbach Corp. acted immediately on notification. The staff, including Mr. Brandstrom, Verne Davis, R. M. King, and K. W. Clark, met last Oct. 10 with R. L. Furniss of the U. S. Bureau of Entomology and Plant Quarantine to conduct an examination. An area of 1,969 acres was determined to be 20 to 100% killed.

Mr. Furniss, with assistance of U. S. Army Air Forces and Marine Corps, made three flights to determine extent of infestation—which he placed at 12,000 acres. Timber losses were heaviest in draws and sheltered drainage areas. With a few exceptions only old growth or old second growth trees were attacked. Stands consist of 80% Western hemlock, 15% Sitka spruce, and 5% Western red cedar, with percentage kills of these stands as follows: 66% of all hemlock; 8% of the spruce; and 2% of the cedar, least susceptible of western trees. Douglas fir was not involved.

According to Mr. Furniss, the looper has four life stages: (1) the egg of blue-green to grey-green color laid on underside of needles, on branches, tree trunks, or in moss attached thereto, where the winter is passed until hatching in early May to mid-June; (2) the larvae, or actual looper, which denude the brush or forest understorey as they crawl up, feeding as they go, until defoliation in evergreen trees is quite noticeable by mid-July and silken webs begin to appear in the trees as the worms, now about one and one-half inch long and of variable greenish to brownish color with diamond back markings, begin a transformation into pupae from mid-August on; (3) the pupae, a legless, non-feeding stage, last-

ing only about a month in out-of-the-way places of forest vegetation or on the ground before adult moth emerges; and (4) the adult itself, a buff-colored moth with one and one-half inch wing-spread, which exists only to lay its eggs before it dies during the winter—but leaving eggs to continue destruction during the ensuing year.

Parasites, predators and diseases usually keep this moth in control, but unusual climatic conditions favorable to development of the looper occasionally result in destructive infestation. Three years of destruction usually follow an infestation unless control measures are adopted. Defoliated trees die the same year, although lumber may be produced the next year, and pulp and paper stock is salvageable for two years without serious loss. Salvage now progresses for Crown Zellerbach Corp. timber.

Control will be undertaken by the State of Oregon with aerial spraying with concentrated sprays of 15 pounds of lead arsenate per acre on the larger area, and treatment with D.D.T., the newly discovered war insecticide, on 1,700 acres, provided the War Production Board makes this insecticide available. Costs are computed at \$3.00 per acre with D.D.T., and at \$4.00 per acre with lead arsenate. This includes insecticides and application only and does not include costs for labor, transportation, storage and use of air fields.

Gilbert Potter Dies

Gilbert Potter, former foreman of the machine shop of the Camas, Wash., mill of Crown Zellerbach Corp., where he had been employed for 36 years and was retired in 1930, died in Oregon City, Ore., May 24.

Chicago Packaging Club Sees Damages

Freight damage caused by faulty packaging was illustrated in slides and discussed at a recent luncheon meeting of the new Chicago Packaging Club. A. L. Green, special representative, freight claim division, Association of American Railroads, was the speaker.

Mr. Green cited figures of roughly \$65,000,000 worth of railroad freight damage in 1944. Causes of all types of damage were revealed by the slide portion of the discussion, which carried through from individual packaging and wrapping to car loading practices. Faulty practices by shipper and carrier were discussed.

The meeting took place at headquarters of the packaging club, 228 North La Salle St., Chicago. The club was formed in September of

C. R. MAHANEY, Gen. Mgr. for past 10 years of Panelyte (plastics) Division, has been elected Vice President of St. Regis Paper Co.



1944, to bring together and coordinate the many separate factors necessary for proper packaging and shipping. A board of governors consists of seven members, headed by Chairman C. Stewart Macnair.

Earning Trends of Some Canadian Companies

Trend of 14 Canadian pulp and paper companies' net earnings before depreciation, interest, taxes, etc., over a period of eight years:

	1937	1941	1943	1944
Bathurst Paper & Paper Co.	\$ 852,622	\$2,073,884	\$1,528,064	
British Columbia Pulp & Paper Co.	1,153,575	3,245,027	1,087,881	
Brompon Pulp & Paper Co.	744,534	1,860,468	1,005,299	\$1,002,812
Consolidated Paper Co.	5,216,152	8,739,400	9,329,525	
Donnaco Paper Co.	600,275	1,307,421	1,514,083	1,314,688
Drivden Paper Co.	271,398	599,792	568,329	
Fraser Companies	3,051,796	5,116,591	5,457,069	6,129,187
Great Lakes Pulp & Paper Co.	915,946	1,850,352	1,572,985	
Howard Smith Paper Mills	2,632,196	5,597,929	4,202,053	
Lake St. John Paper & Paper Co.	1,000,984	1,208,312	1,491,729	1,526,702
Minnesota & Ontario Paper Co.	1,361,832	3,378,354	2,814,108	
Pace Bros. & Co.	2,884,013	5,751,811	6,130,018	6,665,769
Provincial Paper Co.	907,665	1,265,633	1,092,880	1,154,904
St. Lawrence Paper Mills	855,794	1,647,404	1,518,155	1,356,180

Totals \$22,448,782 \$41,444,408 \$39,312,168

Bill Gibson's Wife Fatally Injured in Accident

Mrs. Emily Gibson, wife of William R. Gibson, owner and manager of North-West Filter Co., 122 Elliott Ave. W., Seattle, was fatally injured in taxi-automobile collision in that city on May 10.

She was riding home alone in a taxi-cab when the accident occurred. The Gibsons had been married for 25 years.

Soundview Extends Property

A 65-acre site north of its present site on the Everett, Wash., harbor has been purchased by Soundview Pulp Co.

Leo S. Burdon, general manager, said it would be used for log storage and "for such other purposes as later developments may require."

Mrs. Chalupa Leaves

An employment of considerable duration ended at Longview Fibre Co., Longview, Wash., when Mrs. Gladys Chalupa, receptionist and switchboard operator, resigned recently. Mrs. Chalupa had been with the company since 1929, a period of 16 years.

Simonds Saw Man Honored At Dinner

Among those who paid tribute to the paper industry to George P. Downey, pioneer citizen of Longview, Wash., on the occasion of his 80th birthday recently were R. S. Wertheimer, vice president and resident manager of Longview Fibre Co.; Carl Fahlatrom, assistant resident manager, and H. E. Hoehne, pulp mill superintendent of the same company.

Top executives of the lumber industry, as well as a large number of Simonds Saw and Steel Co., representatives from Portland and Seattle attended. The dinner and entertainment were provided by the saw company for which Downey had worked during the last thirty-five years.

Study Western Methods

Harry Miller, woods superintendent, and Fred Hynes, works mechanic, Bowater's (Newfoundland) Paper Co. spent several weeks in British Columbia in May studying logging and trucking methods. Their company has been making extensive use of coast-built (Hayes) trucks in their hauling operations.

Dr. Hibbert Died May 13 At Philadelphia

Dr. Harold Hibbert, who for many years was regarded widely as North America's outstanding authority on cellulose and lignin, died May 13 at Temple University hospital, Philadelphia, after a long illness.

A native of Manchester, Eng., he was 68 years old. The study of the secrets of cellulose and lignin and their possible greater utilization in industry was a life-long occupation of Dr. Hibbert's. This he carried on in England, Germany, at Mellon Institute before the last world war, at Yale University as a member of the faculty and, finally, for many years as the first E. B. Eddy professor of industrial and cellulose chemistry at McGill University.

His proteges are carrying on today in pulp and paper companies and mills from coast to coast, some of them holding important executive positions. To all of them, Dr. Hibbert was affectionately known as "Pa."

After his retirement at McGill in 1943, Dr. Hibbert came to the Pacific Coast with the view of possibly permanently settling in the San Francisco area and carrying on research for the industry. But his poor health made this prospect out of the question and early this year he moved to New Haven, Conn., where he lived in retirement.

Dr. Hibbert had done special work for some of the biggest companies in the industry. His widow, the former Beulah Cole, whom he married in the United States, and several brothers, survive.

Propose \$11,000,000 Fire Fund for South

Fourteen million dollars was set as the cost of adequately protecting state and private forest lands in the south in preliminary estimates submitted by Southern state foresters and fire control chiefs meeting at Lufkin, Texas, May 28-June 1.

The tentative budget set for the cost of fire protection on 176,537,477 acres of timberland in the South totalled \$14,210,515, four times the amount now spent. The expenditure would amount to about eight cents an acre.

The proposed budgets were analyzed by representatives of the U. S. Forest Service, which allot federal funds under the Clarks-McNary law to states cooperating in fire protection.

Earl Pierce, U. S. Forest Service, Washington, D. C., said the three West Coast states received the greatest share of the federal money based on the above factors because these states appropriated large sums for protection and private owners of forest lands contributed large amounts of additional funds. Although the Southern states have the greatest area of forests by regions in the nation and the greatest number of fires, its protection budgets are lower because some of the state legislatures have been lax in appropriating money for the program, it was indicated.

Southern State Foresters

State foresters of the Southern states elected Glen Durrell, Oklahoma, chairman; Jake Snauffer, Alabama, vice chairman; and Fred Lang, Arkansas, secretary, at a recent Lufkin, Texas, meeting.

Southern fire chiefs appointed R. M. Campbell, South Carolina, chairman, and P. W. Tillman, North Carolina, as co-chairman of their group.



Meeting all conditions of bearings. Oils reduce friction and minimize heat and minimize

For electric motor roller-bearings. Recommended when speed is normal and housing is 15 or 19 is used when high and there is Engine Oil 65 or 70 operate under extreme

Three recommendations with ring-oilers. Temperature conditions, temperatures and pressures.

Where wick-oil waste, the recommended

RESISTS HIGH TEMPERATURE AND OXIDATION. PREVENTS FORMATION OF DEPOSITS IN GROOVES AND PASSAGES.

GROOVES AT BEGINNING OF PRESSURE AREA CONCENTRATE OIL VOLUME

SPREADS RAPIDLY. COVERS BEARING SURFACE WITH UNIFORM FILM

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STANDARD ENGINEERS NOTEBOOK

Calol oils maintain electric motor efficiency

Meeting all conditions encountered in the various types of bearings used in electric motors, Calol Oils reduce friction to a maximum degree, carry away heat and minimize the formation of deposits.

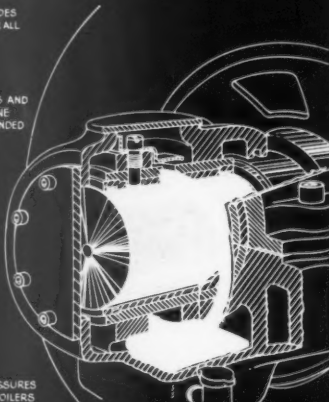
For electric motors equipped with ball- and roller-bearings Calol Engine Oil 8 or 10 is recommended when speeds are high, operating conditions normal and housings oil-tight. Calol Turbine Oil 15 or 19 is used when speeds are low or temperatures high and there is a heavy end-thrust; Calol Diesel Engine Oil 65 or Calol Deturbo Oil 60 when bearings operate under extreme pressures and temperatures.

Three recommendations are made for motors equipped with ring-oilers. Calol Engine Oil 8 for low temperature conditions, Calol Engine Oil 10 for normal temperatures and Calol Turbine Oil 15 for high temperatures.

Where wick-oilers are used or oil is applied to waste, the recommendations for ring-oilers apply.

WIDE SELECTION PROVIDES
CORRECT LUBRICANT FOR ALL
BEARINGS

OPERATING CONDITIONS AND
HOUSING DETERMINE
LUBRICANT RECOMMENDED

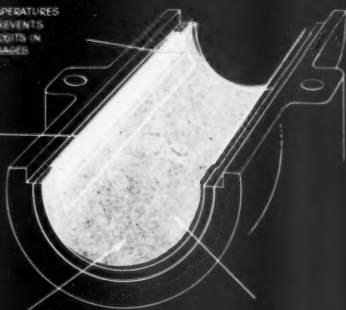


CORRECT VISCOSITY ASSURES
FREE FLOW IN ALL TYPE OILERS

High-film-strength oil carries heavy-duty loads

RESISTS HIGH TEMPERATURES
AND OXIDATION. PREVENTS
FORMATION OF DEPOSITS IN
POCKETS AND PASSAGES

GROOVES AT
BEGINNING OF
PRESSURE AREA
CONCENTRATE
OIL VOLUME



SPREADS RAPIDLY
COVERS BEARING SURFACE
WITH UNIFORM FILM

WITHSTANDS HIGH RUBBING
PRESSURES OF HEAVILY-LOADED
LOW-PRESSURE BEARINGS

Because Calol Multi-Service Oil spreads rapidly over bearing surfaces, adheres to metal and withstands high temperatures and pressures, it is used by many operators on heavy-duty bearings where maximum loads produce high rubbing action.

Calol Multi-Service Oil is made from stable base oil. Compounding gives it detergent and oxidation inhibiting characteristics. As its name implies, Calol Multi-Service Oil has many uses in industry. It is highly effective for the lubrication of natural gas engines, industrial Diesel engines, air compressor cylinders and bearings and enclosed reduction gears and their integral parts.

Calol Multi-Service Oil may be used in oil circulation systems where rapid separation from water is not required, in ring-, drop-, and bottle-oilers and for free oiling.

Available in four viscosity grades: 55X (SAE 20), 65X (SAE 30), 75X (SAE 40) and 85X (SAE 50).

Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert help — make your maintenance job easier. Call your Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California.

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that for this work to Northern Canada, Vancouver, The company has been a diversion. The barker plant are, and tail races and.

that the entire unit, log hydraulic barker operation during the 1946 Decision as to all hydraulic barker be deferred a few operating results new types of equipment.

necessary equipment the company hopes stem of handling its warehouse and ship- of a narrow gauge also involves the use.

This system has only and unsatisfactory. It was planned to stem with a pallet mechanical lift carriers and proportional warehousing. non prevented adequate equipment, be able to secure future.

Expectations in Competition

in 1943. for diversification resident Harold Foley work in this regard preliminary to the hydraulic barker and management of the log.

and an optimistic view. He pointed out regarded as a logical the company's output Pacific war eliminated Philippines and Dutch had been some com- in the opportun- Scandinavian pulp and non market.

it will not be long of hostilities in Eu- at least, will be in

a position to sell pulp and newsprint in the world markets," said Mr. Foley. "The situation with regard to Finland and Norway is more uncertain. It is anticipated that because of the extreme world-wide scarcity of both pulp and paper the major part of Swedish offerings will be used to alleviate shortages in Europe and the likelihood of Swedish newsprint reaching the American market this year is remote.

On the other hand, it is expected that certain qualities of Swedish pulp will be available for the American market before the end of the year. However, it is not anticipated that Swedish competition will have the effect of a price recession in newsprint or pulp for some time to come, not only because the pent-up demand for pulp in the United States will enable Swedish manufacturers to sell at the present price levels, but also because the freight rates from Sweden to America will certainly remain at quite a high figure for some time to come.

Long Range View

This outline of Scandinavian competition is the short-range picture," he continued. "For the long range, we must expect to meet strong competition from the Scandinavian countries. However, we know we will be able to meet this competition to advantage, not only in the Oriental market but also in the U. S. We have an organization which is thoroughly experienced in servicing these markets, and we are confident that even if our Pacific Coast markets are curtailed as a result of Scandinavian competition, the tonnage so released will be marketed by us in countries bordering the Pacific Ocean after the termination of hostilities in that area."

H. K. Brooks was added to the board of directors.

Vice President George O'Brien reported log consumption by the company last year was 151 million feet. Current log inventory was 17,000,000 feet. The parent company's log reserves are 45 billion feet, with 700 million feet held by subsidiary companies.

Vice President Robin Bell-Irving told of the company's plans for diversification in production.

Walter Smith Succeeds Harry Fields in L. A.

Walter Smith, former sales representative of National Paper Products Co., Crown Zellerbach Corp., Denver, has moved to Los Angeles to take over the position of sales representative for the company there, succeeding the late Harry L. Fields.

Mr. Fields died suddenly April 7 at Brookside golf course, Pasadena, Calif. He was 63 and had been in the Crown Zellerbach organization for 15 years. His wife, Mary, is sole survivor.

L. A. Office Moved

It was moving day for Graham Paper Co. and St. Helens Pulp & Paper Co., Los Angeles, on May 24. Frank R. Philbrook and his associate, Willard F. J. Taylor, moved to Room 391, Isaacs W. Hellman Bldg., 124 West 4th St., Los Angeles.

Pleblich Dies

Don Wiley Pleblich, 34, former chemist with Rayonier Incorporated, Shelton, Wash., died in a Seattle sanatorium Apr. 27 after a long illness with tuberculosis.

G. A. "Gerry" Theim, Milwaukee Lacey Paper Co., conducted his first luncheon

Paper Men All Over U. S. Want Bids to Hi-Jinks



1945-1946 Paper Mill Men's Club, Los Angeles, officers (left to right): G. W. Genuit, Vice President; C. A. Thiem, President; Ancil A. Ernst, his predecessor in that office, and Jerry Madigan, Treasurer.

meeting as the new president of the Paper Mill Men's Club of Los Angeles, at the Cabrillo hotel, May 31, with a record turnout of 35 members present. He announced that during his administration the monthly meetings would be held the last Thursday of the month.

Principal item of business discussed was the preliminary announcement of the annual Hi-Jinks, which event has this year taken on a national character, with many hundreds seeking invitations. C. H. Johnston, Pioneer-Flintkote Co., showed a Flintkote industrial film on roofing materials.

Mr. Theim announced T. E. Bruffy, the Dobeckmun Co., as general chairman of the Hi-Jinks, scheduled for the Riviera Country club, Friday, Sept. 7. Assistant general chairman is Marvin Vanderheiden, Nekoosa-Edwards Paper Co. Other chairmen named:

Fred R. Schroeder, Sealright Pacific, Ltd., finance; Jack Leiser, Pioneer Wrapper Co., Christmas party funds; Irving Damon, Northern Paper Co., program and publicity; George Skleba, Dixie Vortex Co., entertainment; Neil B. Sinclair, Nashua Gummed & Coated Paper Co., reservations and invitations; George A. Ward, Crunden-Martin Mfg. Co., golf; Charles E. Jones, Jones Brokerage Co., other sports; William M. Daly, Silklin Paper Corp., door prizes; Louis Wanka, S. G. Wilson Co., director of activities.

The new PMMC officers had been elected April 18 at a dinner in Glendale, Calif. J. W. Genuit, Fernstrom Paper Mills, was elected vice president; Newbey A. Green, Crown Willamette Paper Co., secretary, and G. A. "Jerry" Madigan, Johnson, Carvell & Murphy, treasurer.

New directors, composed of past presidents are: Ancil A. Ernst, Dwight Tudor, Paul Raab, Lester E. Remmers and C. Spires.

Shuttleworth Succeeds Don Budge in Post

Don Budge, who for the past five years has been assistant manager of the headquarters wrapping paper department, Zellerbach Paper Co., San Francisco, resigned as of May 1, and has been succeeded by Parnell Shuttleworth.

Mr. Shuttleworth has been with the company for 16 years working in both the Seattle and Fresno divisions in the sales department before coming to the headquarters executive staff. During the past several years, he has devoted efforts to development of packaging material for processed foods. He will assist T. J. Finerty, vice president in his new post.

Rawlings in Denver

Millard K. Rawlings, for the past 15 years with the Crown Zellerbach Corp., and for the past three years in headquarters order department, San Francisco, has been transferred to the Denver office of National Paper Products Sales Co., Crown Zellerbach Corp., where he will be district representative.

John Sundberg Freed

First Lt. John L. Sundberg, USAAF, pilot of a B-17, who was shot down over Germany, Aug. 17, 1943, and son of A. L. Sundberg, administration department, headquarters division, Zellerbach Paper Co., San Francisco, has been released from a German prison camp and will shortly be home. The young flyer was an employee of the Crown Zellerbach Corporation before he joined the air force.

Tudor With Box Co.

Dwight Tudor, former president, Paper Mill Men's Club of Southern California, and for some years sales representative, Fibreboard Products, Inc., Los Angeles, recently became sales manager, Independent Paper Box Co. He will continue to make Los Angeles his headquarters.

Paper Firm Leads Them All

The Spokane division of Blake, Moffitt & Towne was the first business firm in that entire area over the top in the Seventh War Loan Drive, according to word received at San Francisco headquarters of the company from George F. H. Taylor, Spokane division manager. George Gordon in the Spokane sales department led the drive for 100% participation of employees.

Mrs. Schwabacher Dies

Mrs. Carrie Schwabacher, widow of the late Ludwig Schwabacher, founder of the Crown Paper Co., which became the Crown Willamette Paper Co., then finally merged with the Zellerbach paper interests to become the Crown Zellerbach Corp., died at her home in San Francisco last month. She was 87.

Pacific Paperboard Staff

At Pacific Paperboard Co., Longview, Wash., E. E. Flood, president, has announced appointments of Wilbur W. Weaver, of White Pidgeon, Mich., as technical research engineer to develop better qualities in packaging materials, and Louis C. Boeppler, formerly superintendent at Fibreboard Products, Inc., Antioch, Calif., as manager of the conversion plant.



West Coast Wage Issues Go to War Labor Board

A deadlock ended the 11th annual wage conference of the Pacific Coast pulp and paper industry, which adjourned May 26, after a four-day session.

Four points on which representatives of the two unions—International Brotherhood of Pulp, Sulphite, and Paper Mill Workers and International Brotherhood of Paper Makers—failed to agree with the Pacific Coast Association of Pulp & Paper Manufacturers, including management representatives of the 33 West Coast pulp and paper mills, were:

1. General wage increases.
2. Six holidays with pay.
3. Increased night shift differential pay rates.
4. Group insurance to be paid for by employers.

Agreements did come out of the annual wage conference, however, on a number of contract changes and interpretations, with the present contract to continue in full force and effect. Throughout, the utmost harmony prevailed among the 200 delegates present, and unsettled issues were directed to the War Labor Board for decision.

The basic agreement has been operative on the Pacific coast, on an industry wide coverage of all 33 mills at Washington, Oregon and California, since 1934, and now affects some 13,000 workers organized under the two unions.

Labor was represented by John Burke, Fort Edwards, N. Y., president, and John Sherman, Tacoma, Wash., vice president and regional representative of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, and by Russell Drummond, Portland, vice president and regional director of the International Brotherhood of Paper Makers. David Zellerbach was chairman of the manufacturers' negotiation committee.

The following statement was issued by the two labor union vice presidents at the end of the meeting:

"While we have been able to agree on certain statements of policy and contract changes, we failed to reach agreement on general wage increases and other conditions. Both international unions have served notice on employers that a dispute case will be filed with the government on behalf of all local unions covered by the uniform labor agreement."

Mr. Sherman, in a further statement, said the wage increase the unions requested was intended to meet the diminishing "take-home" pay which will result from decreasing the work week from 48 to 40 hours. "All of us know that the roll back is coming sooner or later, and we'd like to guard against a consequent pay cut." As yet no reduction in working hours has been discussed in the industry, nor is any indicated.

Proceedure on the four unagreed points will henceforth be quite involved. On receipt of the union's brief on the matter by the Conciliation Department of the National Labor Relations Board in Washington, D. C., a single conciliator will be appointed to determine whether the case shall be referred to the War Labor Board. In the event the matter is so certified, the Dispute Commission will set up a tri-partite panel composed of representatives for labor, management, and the public, to hear the case.

The panel makes final recommenda-



ELIAS C. ATKINS, President and Chairman of E. C. Atkins and Co., makers of saws and machine knives, 402 So. Illinois St., Indianapolis, announces election of HENRY C. ATKINS (left) as Vice Pres., in Charge of Manufacturing. Appointment of WILLIAM ED MCCARTNEY (right) as Superintendent, was also announced.

H. C. Atkins is third generation of family in company, which he has served 23 years. Mr. McCartney, with company 14 years, rose from apprentice machinist. His father is a company foreman.

tions to the War Labor Board, which then issues a decision.

This is the first matter under the 1934 agreement to be referred, and a final decision, if the case is recommended, lies months ahead.

Smith Reelected President

For the manufacturers, the following officers were elected or re-elected: John H. Smith, Portland, Ore., president and general manager of Hawley Pulp and Paper Co., president; R. B. Wolf, Longview, Wash., manager, Pulp Division, Weyerhaeuser Timber Co., vice president; R. S. Wertheimer, Longview, Wash., vice president and resident manager, Longview Fibre Co., secretary-treasurer; and F. A. Drumb, San Francisco, director of industrial and public relations, Crown Zellerbach Corp., San Francisco, assistant secretary.

The executive committee of the manufacturers' association consists of the above named officers and J. E. Hanny, resident manager, Camas, Wash., division of Crown Zellerbach Corp.; Lawson Turcotte, executive vice president, Puget Sound Pulp and Timber Co., Bellingham, Wash.; W. E. Breitenbach, vice president, Rayonier Incorporated, Port Angeles, Wash.; and L. S. Burdon, general manager, Soundview Pulp Co., Everett, Wash.

Albert Bankus, vice president, Crown Zellerbach Corp., San Francisco, was unanimously reappointed chairman of the permanent classification committee.

Grimes Gets New Post

S. W. Grimes, formerly personnel supervisor for Rayonier Incorporated, at Port Angeles, Wash., has accepted appointment with the Pacific Coast Association of Pulp and Paper Manufacturers as employee relations director, according to John H. Smith, president of the association.

Mr. Grimes will have an office in Portland, Ore., and will start his new work August 1.

The position is a new one in the coast management organization.

First Joint Labor Agreement for B. C. Mills

British Columbia's pulp and paper companies have entered into agreements with two A. F. of L. labor unions regarding working conditions, but no change has been made with respect to wages.

This is the first time all four companies, Powell River Co., Pacific Mills, Sorel Pulp Co., and B. C. Pulp & Paper Co., have signed the agreement jointly. The unions affected are the International Brotherhood of Pulp, Sulphite & Paper Mill Workers and the International Brotherhood of Paper Makers.

Two main concessions were granted by the companies:

1. Agreement to pay night shift differential of 3 cents per hour to all employees for all work performed between 8 p.m. and 8 a.m.

2. Agreement to grant two weeks' vacation with pay to all employees after five years' continuous service. In the past employees have been entitled to one week's vacation after one year's service.

The night work payments affect the various companies differently, as their hours of operation at night are not identical.

After the pulp and paper mills had reached agreement with the unions, Pacific Mills and Westminster Paper Co. signed similar pacts with the same unions regarding employees of their converting plants.

All agreements are subject to the approval of Canada's Regional War Labor Board.

Wages remain unchanged, the present basic rate being 67 cents an hour.

Similar agreements were to be signed between pulp and paper companies and organized labor in eastern Canada following the completion of such a pact between Canadian International Paper Co. and the unions.

Canadian International agreed to the same terms as provided for in the west coast agreements referring to vacations. The company rejected a union demand for a general wage increase of three cents an hour, but it was stated that the company would not oppose an application for such an increase if taken to the Regional War Labor Board.

Tom Bannan Honored

Thomas J. Bannan, president of the Western Gear Works of Seattle and Los Angeles and its associate, the Pacific Gear & Tool Works of San Francisco, was recently elected vice president of the American Gear Manufacturers' Assn. at its Hot Springs, Va., meeting.

No. 2 for Meder Johnsons

A son, Jeffery Meade Johnson, was born Apr. 26 to Meder Johnson, resident engineer, Port Angeles, Wash., division, Rayonier Incorporated, and Mrs. Johnson. Master Johnson has a "big sister"—18 months his senior—to keep him on the right track.

Kaphingst Son Dies

Merritt Kaphingst, sulphite superintendent, Columbia River Paper Mills, Vancouver, Wash., on May 28 received War Department notification of the death of his son, David, 19, during the campaign in the Philippines.

Acid Making In the Su

By A. H. L.

(Following is a series of articles with the theories of absorption equipment was published in our journal in July.)

V. PRESSURE

Apart from gas to force the gas represents the pressure. As the power of the gas rate a tower, data on pressure of first importance packing material.

It has been pointed out that drop is due to corrosion gas flow through packing particles, per cent of the decrease. Contraction loss are all proportional gas rate.

Dr. F. C. Zeigler regarded as the packing. All of the taken from that point.

Assuming that in this case (this is true), the friction square of the velocity.

*Seattle, Washington. Company, New York City.

TABLE XXIX

quartz, 6 in.
quartz, 3 in.
Coke, 3 in...
4 in.X3 in.sme
Diaphragm R

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Diaphragm R

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Tile on edge,
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Acid Making In the Sulphite Pulp Industry

By A. H. LUNDBERG

CHAPTER IV (Continued)

V. PRESSURE DROP THROUGH PACKING

- fv — packing dry.
 fw — packing wet with water, but drained as completely as possible.
 fc — packing with water circulating over it at a rate of 11 lb. per sq. ft. cross sectional area per min.

It is, of course, evident that we may have, for example, fdy — packing dumped and dry, and that quartz or coke can give values only for fd and not for fp or fs. See Table XXIX.

It is interesting to note how rapidly the resistance to gas flow increases with decrease in size of material. That this resistance is not entirely a function of the

PULP & PAPER INDUSTRY

surface exposed by the packing is indicated by the fact that as the size decreases the resistance increases first less rapidly than the surface and then considerably more rapidly. Another interesting fact is the increase in resistance, with the smaller packings, due to a mere wetting of the packing. Often the difference in resistance between a dry and a wet packing is greater than the difference between a merely wet packing and the same packing with considerable water circulating over it.

Perhaps the most noticeable thing brought out by Table I is the fact that for a given size of packing, the manufactured packings give much more surface and greater free space and interpose much less resistance in the absorption system than quartz, coke or packings of that kind.

JUNE • 1945

multi-filaments could not of hosiery made from it, sufficient to overcome the tensibility, with the result in knitting.

Research led to the result was a high tenacity type, but with more elasticity had general utility, at least before the war.

Hi-tenacity

While working in the particular attention to the little elasticity of its imparted elasticity, which production of a high hosiery for two reasons: wear, and for a yarn after throwing. Commercial development of other uses. The principle and the size known as a on a principle follows a war period to make a rayon.

The war has already the of Waterloo was won of El Alamein was won there the ruggedness of ball pants and it proved of fragmentation bombs blasted the Nazis out in aeroplane tires, increased at high speeds and proved to be the fiber critical rubber program consideration, rayon increasing quantities a

Tire

The tire yarn program pounds of viscose have 110 million. Were they interested in the manufacture of a than ever before will the war is over the tire industry may be want to reconvert manufacturing of high yarn required for hosiery tires, and since nylon reasonable to assume viscose rayon it want for hosiery.

Rayon N

This does not mean of nylon. Far from majority of the women quantity; but fibers replacing other fiber price, there was a price that the volume of it was reduced when silk

The extent of the ment subsidy which with national policy war will undoubtedly both might, to some rayon yarn produce.

It is conceivable tenacity, tough rayon

Rayon and Its Postwar Products

By H. WICKLIFFE ROSE

Coordinator of Research and Planning,
American Viscose Corporation

A total of 281,000 tons of wood pulp in purified form were used by U. S. rayon producers in 1943, comprising 84% of their total pulp (wood and cotton linters) utilization. In viscose rayon, the percentage of wood pulp is even greater. In acetate rayon it is likewise predominant.

Because of lower cost, uniformity of fibers and improved manufacturing processes, the use of wood pulp is expected to show further gains over cotton linters after the war.

Therefore, the following remarks by Mr. Rose are of special interest to the pulp industry. The rayon industry already has extensive plans for new, improved products after the war—articles which cannot be put into production today.

WAR brings out of fibers whatever is in them, as it does with people. The best and the worst in the character of both is brought to light for all to see; for war is too exacting, too impersonal, and too impartial to permit preferences. With pride, prejudice, and fashion set aside for the time being and performance being the principal criterion for war, we learn about men and materials.

The war has brought about a concentration on fibers and their performance to the point where we already know more about them than ever before, and, undoubtedly, more than we would have learned without that concentration. The implication is that this knowledge will affect the future of fibers. While the war program comes first, and our research and development programs are for the war needs, where peacetime products can benefit by the knowledge gained, they will not be forgotten.

Hosiery Yarn Not The Best Yet

Speaking as a manufacturer of rayon, we have no illusions that the present filament rayon yarn going into women's hose is the best rayon that can be made for the purpose. In fact, in our own case, the yarn we have been shipping for women's hosiery since the war started, and are shipping currently, either on WPB order or as free yarn, is not the best that we can make for hosiery right now. That fact has impressed us as being so important to the women of the country and of such importance to all of us engaged in manufacturing and making the

hose available to the women, that we have advertised the fact in no uncertain terms in national magazines. We thought at first that the subject was one for the rayon industry to handle in the general interest of rayon and its public, but the other producers had their own reasons for not taking part. Advertising in reverse was a new angle, and without industry support, our company went into it alone. That the move was considered constructive has been witnessed by the fact that more than 17,000,000 reprints of such advertisements have been distributed in response to requests, most as inserts with the hose at the point of sale.

Obviously, it is not practical nor possible to advise all women of exactly what type of rayon they are wearing and how it compares with all other types, current and future. They would not all know the technical distinctions. We are still learning ourselves. Performance is a better test, and the consumers are not too well satisfied with the rayon they are getting now. Sales resistance later to rayon might be prevented now if they understand that after the war not only will other fibers be available for hosiery, but also better rayons.

It is not necessary to point out to the industry that rayon is no war-time intruder in the hosiery business. A generation ago the majority of rayon went into knit goods, and hosiery was a large part of it. Twenty years ago the style for shorter skirts ended the supremacy of the ankle, and in most cases, women could not show what they had been wearing in the rest of the stocking. At that point rayon began one of its most important economic phases by providing a fashionable article at a price afforded by the majority of women in the country. Almost immediately thereafter rayon entered a series of improvements of a technical nature, which enhanced its utility and value at the same time that the price was being brought down.

Improvements in Rayon Hosiery Rapid

When this war started, a number of improvements in rayon of particular interest to hosiery had already been made. The strength of viscose rayon had been improved materially both in the wet and dry state. The Lilienfeld type of yarn which our company produced many years ago had a tensile strength of over five grams per denier dry and an extensibility of less than 8 per cent. We made 150/150 yarn of that type, but the

indicated by the fact resistance increases first and then considerably the fact is the increase in weightings, due to a mere difference in resistance is greater than the difference in weight packing and the difference in resistance over it.

thing brought out by the size of packing, the more surface and much less resistance in the case of packings.

have advertised the fact. We thought at the time we thought it was a public, but the other was taking part. Advertising without industry support, the move was considered to be a fact that more than one has been distributed with the hose at the

able to advise all women in wearing and how it is made. They would be. We are still learning and the consumers are getting now. Sales are presented now if they will sell other fibers be the same.

the industry that rayon is now. A generation ago rayon and hosiery was a new silk for shorter skirts. In most cases, women were in the rest of the world of its most important article at a price in the country. Almost a series of improvements in utility and value at a brought down.

Hosiery Rapid

Improvements in rayon have already been made. The improved materially both in the type of yarn which had a tensile strength and an extensibility of less than that of that type, but the

multi-filaments could not compensate for the inherent character of hosiery made from it, nor was the high tensile strength sufficient to overcome the brittle character reflected in the low extensibility, with the result that the yarn had a tendency to break in knitting.

Research led to the modification of Lidenfeld yarn, and the result was a high tenacity yarn, lower in strength than the older type, but with more extensibility and toughness. Such yarn had general utility, and rayon tire cord became established before the war.

Hi-Tenacity Viscose Yarns Important

While working in the high tenacity viscose yarn field, we gave particular attention to elasticity. The rayon yarn possesses very little elasticity of its own, but it was known that throwing imparted elasticity, which the yarn itself did not possess. The production of a high tenacity yarn then became important to hosiery for two reasons: for a more rugged yarn for consumer wear, and for a yarn that would react properly to throwing and after throwing. Such a yarn had reached the stage of commercial development when the war diverted the production to other uses. The principle of throwing rayon yarn for hosiery, and the size known as Avconit, developed for rayon hosiery on a principle followed by others, have continued during the war period to make a better hose regardless of the type of rayon.

The war has already proved that rayon is rugged. If the battle of Waterloo was won on the playing fields of Eton, the battle of El Alamein was won on the football fields of America; for there the ruggedness of rayon had been demonstrated in football pants, and it proved to be the material for the parachutes of fragmentation bombs that turned Rommel about and literally blasted the Nazis out of Africa. In combat vehicle tires and in airplane tires, including service on heavy bombers landing at high speeds and braking rapidly with great loads, rayon proved to be the fiber sufficiently rugged to take it. In the critical rubber program, in which performance was the deciding consideration, rayon proved its superiority and is being used in increasing quantities as the program progresses.

Tire Yarn Program Data

The tire yarn program calls for a capacity of about 240 million pounds of viscose rayon. Of that amount our company will have 110 million. What does this mean to the hosiery industry? Are they interested in this program? It means that facilities for the manufacture of a much larger quantity of extra strong yarn than ever before will be in production. It means that when the war is over the portion of that production not taken by the tire industry may be available for hosiery. Since we will not want to reconvert machines to the standard type of yarn, if our production of high tenacity is in demand, since the total of yarn required for hosiery is only a portion of that required for tires, and since nylon will be available for hosiery again, it is reasonable to assume that the hosiery industry can have all the viscose rayon it wants in strong types or types made especially for hosiery.

Rayon Not Competing With Nylon

This does not mean that rayon waives the business in favor of nylon. Far from it. We fully expect to see nylon make the majority of the women's hose when it is available in sufficient quantity; but fibers do not seem to have a way of completely replacing other fibers. With silk at fancy prices and at a low price, there was a place for rayon, although it is recognized that the volume of rayon hose dropped and the price bracket was reduced when silk hose sold for 70 cents a pair at retail.

The extent of the return of silk and of the Japanese government subsidy which enabled them to price silk in accordance with national policy, and the price of nylon hose after the war will undoubtedly affect the volume of rayon hose. Either or both might, to some extent, affect the type and quality of the rayon yarn produced for hosiery.

It is conceivable that a very fine filament, fine denier, high tenacity, tough rayon yarn might be produced after the war

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WOOD PULP
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EXPORTERS OF
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which would have a place in the best hose, but the price at which it could be produced, the processing costs to place it in the best hose in the best condition, and the relative value of its merits, would determine whether it could be commercialized. Technically, such a yarn seems to be within the realms of possibility, but only the future and all its factors now unknown will tell whether it is commercially practical.

Spun Rayon Yarns in Hosiery

Recently we announced the development of a strong fiber as fine as silk, and there have been a number of inquiries as to its application in hosiery. The announcement referred to a one denier viscose staple for spun rayon, some of which is used on the silk system and some on the cotton. The fact that many minds thought hosiery at the mention of silk is a reflection of the position of silk when the war started. In spun rayon the staple fiber has been introduced in each textile process to match the specifications of the natural fibers. In this case the fineness of silk has a definite significance to a silk spinner, and it has a comparative significance to the cotton spinner, who, with rayon staple, has come a long way from traditional cotton technology.

In hosiery there is a place for spun rayon, although the problem of supply of filament yarns for women's hose has been so great that it overshadows the other uses and possibilities. After all, men and children wear hose too in this enlightened age, and there spun rayon finds its place. Filament yarns have long been used to half hose for cross dyes, clocks, fancies, and plain. With the advent of high tenacity viscose staple fiber was produced in a strength of value in hose. The development of this product had only begun when the war started, and while it is being continued in our Textile Research Department, where industry problems are given constant attention, the postwar period should see a full development of spun rayon hose.

The fine size of fiber, its length produced to specification, the fact that it can be produced in yarns of woolen, worsted, cotton or silk spun types, make rayon staple the most versatile of fibers. Yarn of fine counts are suitable for women's hose of the lisle type and for nets as well as for half hose. Yarns of the coarser types are possible in a variety of blends with other fibers, combining their textile merits or producing heather mixtures in cross dye effects.

Viscose vs. Acetate Hosiery

The volume of rayon hose is of the viscose process. Some acetate hosiery is being produced, but it is not as rugged as viscose. Acetate rayon hose has a number of attractive qualities. Its appearance and touch and its rapid drying quality are definitely in its favor, but it needs more ruggedness for wearing performance and to create repeat sales. Acetate has been improved in strength to a high degree of perfection, notably by a process of saponification which leaves the yarn without its acetyl content and in a state of practically pure cellulose, but the extremely high strength is reached by sacrificing extensibility. As mentioned in connection with Lilienthal yarn, high strength and low extensibility do not seem to produce a rugged hosiery. This does not mean that a happy medium will not be reached. It might be possible to produce a strong acetate with high extensibility and attendant ruggedness. We are conducting research with such an objective, as we assume, the other producers of acetate rayon probably are, and the future may hold interesting developments in this field.

Research is being conducted in so many different fields and with so many different objectives that a perspective is necessary and well worth while. Of all the benefits to be derived from civilization, food, shelter, and clothing are the most fundamental and are enjoyed by the largest number. In the textile business we are providing one of these, and we can all take part in the research involved in producing better clothing for greater comfort. Of all the research being done to bring the world war to a successful conclusion, that which will make the world a better place to live in is worthy of survival. If those are sorted out from the great mass of information available when the war is over then we will have contributed to that peaceful world to come and the benefits of civilization.



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Mills*

**MACHINE CLOTHING
~ SUPPLIES ~**

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Supply Company*

SAN FRANCISCO • PORTLAND

Bleaching Highlight Canadian Meeting

A diversified program was with by delegates to the 34th of the Technical Section, Canadian Paper Assn., at the Hotel, Quebec City, June 1.

One of the features was of groundwood. The A. Pulp & Paper Co. at Quebec has been operating a pilot plant process for bleaching and Dr. Keith Russell and of that company, were participants to the panel on this subject.

Dr. J. Reichert of De was to speak on the process in bleaching, and Harry Andrews, control, Powell River Co., was to zinc hydrosulphite process. Sigge Ekman, Rhineland J. Grieve, Brown Corp., listed as leaders in pulp.

The official dinner, to be Dr. A. C. Hill, of and chairman of the 34th was to serve as an introduction. M. Fowler, the newly elected of the association, and the joint executive board.

Dr. John S. Bates, of Montreal, the first chairman of the Technical Section, (1915-18) honorary life member.

Dilts Plant Takes

Black-Clawson Co., H announces the manufacture of chines and water finish been transferred from Middletown, O., to Dilts Fulton, N. Y. Both of are Black-Clawson divisions.

New Portland Pl

The Rose City Paper 118 N.E. Union Ave., now in full operation, opened March 1. At the people are employed, 100. A. M. Sondern, an employee of Pacific Longview, Wash. All boxes for civilian and being made at the new plant is a limited part of Mr. Sondern and L.

Fishing Boats in I

The boat owning by the Pulp Division, General Puget Sound Pulp men. The latest addition, Gilmore, assistant superintendent; machine room; Gerald G. Ericsson, technical director; pipefitter; and How Wright. With the exception, who has bought all the new owners have.

Weyerhaeuser Ma

The Pulp Division, Weyer Co., Longview, V second employee by a man who entered the death in New Guinea. Keller, Army chemist, was received by his father, an analyst in the laboratory also has received of two brothers in the lands, all within a month.

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Bleaching Highlights Canadian Meeting

A diversified program was to be dealt with by delegates to the summer meeting of the Technical Section, Canadian Pulp and Paper Assn., at the Chateau Frontenac, Quebec City, June 18-20.

One of the features was the bleaching of groundwood. The Anglo-Canadian Pulp & Paper Co. at Quebec City has been operating a pilot plant on the sulfite process for bleaching groundwood, and Dr. Keith Russell and Claire Jones, of that company, were prepared to contribute to the panel treatment of that subject.

Dr. J. Reichert of Dupont Chemicals was to speak on the sodium peroxide process in bleaching groundwood, and Harry Anderson, central superintendent, Powell River Co., was to deal with the zinc hydrosulphite process.

Sigge Ekman, Rhineland Paper Co.; J. Griese, Brown Corp., and others were listed as speakers in pulp sessions.

The annual dinner, to be presided over by Dr. A. C. Hill, of Anglo-Canadian and chairman of the technical section, was to serve as an introduction of Robert M. Fowler, the newly appointed president of the association and chairman of the joint executive board.

Dr. John S. Bates, of Price & Pierce, Montreal, the past chairman of the Technical Section (1915-18), was voted an honorary life membership in the section.

Dilts Plant Takes Over

Black-Clawson Co., Hamilton, O., announces the manufacture of waxing machines and water finish equipment has been transferred from Shurtle Bros., Middletown, O., to Dilts Machine Works, Fulton, N. Y. Both of these companies are Black-Clawson divisions.

New Portland Plant

The Rose City Paper Products Co., 118 N.E. Union Ave., Portland, Ore., is now in full operation after its establishment March 1. At the present time 14 people are employed under the management of A. M. Sondern, for 12 years an employee of Pacific Paper Board Co., Longview, Wash. All types of folding boxes for civilian and military uses are being made at the new plant. The company is a limited partnership composed of Mr. Sondern and L. E. Utter.

Fishing Boats in Demand

The boat owning bug has bitten several Puget Sound Pulp & Timber Co. men. The latest additions include Fred Gilmore, assistant superintendent of machine room; Gerald Green, chemist; Eric Ericsson, technical director; Al Carr, pipetitter; and Howard Dixon, millwright. With the exception of Eric Ericsson, who has bought a small sailboat, all the new owners have runabouts.

Weyerhaeuser Man Dies

The Pulp Division, Weyerhaeuser Timber Co., Longview, Wash., has lost its second employee by death from the 81 men who entered the armed forces. The death in New Guinea of J. Brennan Keller, Army chemical warfare division, was received by his wife, who works as an analyst in the laboratory. Mrs. Keller also has received reports of the death of two brothers in the Philippine Islands, all within a period of three months.

Westminster Paper Co. Doubles Outstanding Shares

Westminster Paper Co., currently engaged in plant expansion at New Westminster, B. C., reports that 1944 sales totalled \$1,567,089, gross profit before depreciation charges, \$309,300, and net profit, \$97,340.

Dividend payments are continuing at the regular rate. Amount of outstanding shares was recently doubled to finance new construction which will increase production and provide improved shipping facilities.

J. J. Herb is chairman of the board and president; E. M. Herb, vice president and general manager; F. F. Foote, secretary-treasurer; C. T. Radcliffe, sales manager; John Ashby, technical director; R. C. Onkels, superintendent, and J. W. Corder, production manager.

Luke Is Bank Director

David L. Luke, Jr., president of West Virginia Pulp & Paper Co., New York, has been elected to the board of directors of Irving Trust Co., New York.

Goldstein Retires

Stein, Hall & Co., Inc., New York, has announced that John Goldstein, treasurer and a director, will retire from active business July 1 after 37 years of association with the company.

Bowling At Puget Sound

Puget Sound Pulp & Timber Co. bowlers have just concluded their most successful and longest bowling season. The Woodroom came out in front of the other teams in the eight-team pulp mill league. Individual honors went to Walt Kaufmann with a total of 673 pins.

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VALVES

from a 1/8" Petcock
to a 24" Gate Valve

STEEL • IRON BODY, BRONZE MOUNTED
BRONZE • "CAUSUL" METAL • IRON
GATE • GLOBE • ANGLE
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A War Bond Message Designed and Contributed by
Buell Engineering Company, Inc., New York

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DUST RECOVERY
SYSTEMS

United Paperboard Elects New Slate of Officers

A new line-up of officers, with Fred Enders as president, has been elected by directors of United Paperboard Co., which operate mills at Lockport and Thomson, N. Y., and Urbana, O.

Mr. Enders succeeds Leeds Mitchell. Resignations of Mr. Mitchell as president; John Drew as vice president and manager; and Mitchell Todd as vice president and secretary, were accepted.

Other new officers: James Todd, Jr., vice president; H. W. Kephart, vice president in charge of sales; P. M. Loddengard, vice president in charge of production; and John F. Cordes, secretary-treasurer.

IPMCO Buys Foundry And Tract for New Plant

The Improved Paper Machinery Corp., Nashua, N. H., has purchased a gray iron, Ni-resist and bronze foundry at Manchester, N. H., and has organized a wholly owned subsidiary under New Hampshire law, known as Manchester Foundry, Inc. William F. Griffin, former owner, will continue as president of the new corporation. The foundry is being modernized and new equipment is being installed as rapidly as conditions permit.

Another purchase by Improved is a 26,000 sq. ft. tract on which a modern woodworking and pattern making plant is being established. This plant will be used to build cypress vats and other equipment and to enlarge facilities for pattern making.

G. E. Spectrophotometer for Lab

The research department, Pulp Div., Weyerhaeuser Timber Co., Longview, Wash., has installed a General Electric recording spectrophotometer, Raymond D. Hatch, research director, reports.

The equipment records reaction to color through reflected light; can be used on solids, liquids, confined gases or on color producing vibrations, and gives a permanent graphic record. Checking changes of color of a process liquid at intervals are among numerous functions of the instrument.

Tide Water Vice President

Robert E. Ryerson, formerly general sales manager and recently acting head of the eastern division sales department of Tide Water Associated Oil Co., has been appointed a vice president of the company, according to William F. Humphrey, president. Mr. Ryerson fills the position held by the late J. D. Collins.

Plant Powell River Trees

At instigation of Harold S. Foley, president of Powell River Co., an experiment in reforestation is being carried out at Powell River, B. C., where officials of the British Columbia forest service have supervised planting, by high school boys, of 10,000 young Douglas fir trees.

The trees, planted on ground prepared by the company, were provided by the forest service.

Among company representatives who attended the planting were D. A. Evans, resident manager, and Archie DeLand, logging manager.

JUNE •

Fairbanks-Mc In Canada

George M. Niven, manager at Seattle for Co., was recently president and general manager of Canadian Fairbanks-McCord. He joined the Chicago in 1923, after 10 years at the Jack-

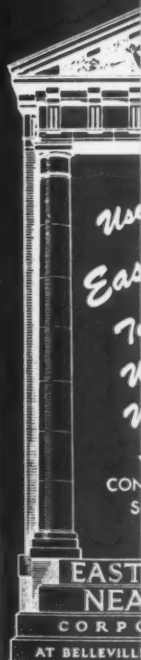
Advance to M

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"Because deliv ages of literature seas, I usually sug a permanent resi U. S. to which w releases," says M keep up with th they subscribe t published for the are delivered—eve

Fred Boyce H

• Fred C. Boy "father" of the was re-elected pre ray Manufacturing on March 21. Oth M. P. McCullough dent; C. E. Staky dent; A. W. Plier Alexander, treasu Wausau Directo and D. C. Everest Grover Keith.



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James Todd, Jr.,
Cuphart, vice presi-
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and D. A. Evans,
Annie DeLand,

Fairbanks-Morse Manager In Canada

George M. Niven, former branch man-
ager at Seattle for Fairbanks, Morse &
Co., was recently promoted to vice presi-
dent and general sales manager of Can-
adian Fairbanks-Morse Co., Ltd., Mon-
treal. He joined the F-M organization at
Chicago in 1923 and later spent some
years at the Jacksonville, Fla. branch.

Advance to Men Overseas

When overseas members of TAPPI
write R. G. Macdonald, secretary, and
suggest that he begin to send them all
the literature, proceedings and techni-
cal papers of the association, he has
some special advice.

"Because deliveries of heavy pack-
ages of literature are so uncertain over-
seas, I usually suggest that they give us
a permanent residential address in the
U. S. to which we can mail our regular
releases," says Macdonald. "Then, to
keep up with the industry, I suggest
they subscribe to trade publications
published for the industry. Magazines
are delivered—eventually."

Fred Boyce Heads Murray Co.

• Fred C. Boyce, Wauwatosa, Wis.,
father of the Superintendents Assn.,
was re-elected president of D. J. Mur-
ray Manufacturing Co., Wausau, Wis.,
on March 21. Other officers elected were
M. P. McCullough, Chicago, vice presi-
dent; C. E. Staky, executive vice presi-
dent; A. W. Plier, secretary, and J. S.
Alexander, treasurer, the last three of
Wausau. Directors include the above
and D. C. Everest, George L. Ruder, and
Grover Keith.

MECHANICAL ENGINEERS

Experienced in Design and Produc-
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Cups, Carton, automatic Packaging
Machinery using Paper, etc.

Must have successful pre-war back-
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replying give full particulars, places
worked, projects, etc.

Institute of Product Research Dept.
LAH-448 S. Hill Street, Los Angeles
11, California.

First Pin Awards For Fernandina Negroes

More than one hundred Negro em-
ployees of Rayonier Incorporated were
awarded service pins April 5 at the first
ceremony of its kind in the company
cafeteria at Fernandina, Florida — and
sixty-one of these are now serving their
country in the armed forces.

"There are four parts to this business
—workers, management, owners, and
customers. Their interests are identical,"
said Ed Bartsch, president, in a message.
The ceremony followed a week after the
one at which white employees received
their service pins.

More Mills for India

Several new mills are being started in
India, according to a message from
S. Sgt. H. A. Goodwin, secretary of An-
drews and Co., of England, published in
London's World's Paper Trade Review.

"It may interest you to know that in
India the future prospects of paper are
receiving much attention," he wrote.
"Education of the masses (88% is illiter-
ate) is likely to form a big part in post-
war plans and for such a colossal task
much paper will be needed."

"These new mills, in their prospectuses,
confidently state that there are adequate
raw materials at hand, by which I imag-
ing they mean local grasses."

WANTED — Chemical Engineer with
at least two years' experience in pulp and
paper mill for technical and investiga-
tional work in large, modern, progressive
newsprint and sulphite mill in Ontario.

Please do not apply unless your ser-
vices are available under regulation P.C.
246, Part III, administered by the war-
time Bureau of Technical Personnel, Box
No. 9, Pulp & Paper Industry, 71 Colum-
bia St., Seattle 4, Wash.

CHEMIST OR CHEMICAL ENGI-
NEER—Development work. Experienced
in preparation of wood fibre and general
fibre technology—specifically, the cook-
ing, beating, refining and use of wood
fibre on paper machines. Marvelous op-
portunity for the right man. Company is
now engaged in essential industry and
has unexcelled postwar future. Location
—Metropolitan New York Area. Send
complete resumes to Box 7, Pulp & Paper
Industry, 71 Columbia St., Seattle 4, Wn.

Mr. Paper Jobber

Will you pay for RESULTS

- Operating Cost Reduction
- Trained Salesmen
- Controlled Purchasing
- Improved Sales
- Increased Profits

If you desire to retire, require experi-
enced branch manager or need capable
executive at the helm, permit me to con-
tact you. Over 20 successful years in
paper business, half mill sales and half
operating jobbing houses, yet a young
man. Only reason for change is desire to
return to Pacific Coast. Will back knowl-
edge with substantial investment or will
purchase control of jobbing house. Reply
Box 5, Pulp and Paper Industry, 71 Col-
umbia St., Seattle 4, Wash.

WANTED, Project Engineers and
Draftsmen. Pulp or paper mill experi-
ence desirable but not essential. At-
tractive post war prospects. Submit full
statement of education, experience, draft
status, recent photograph. Reply, Box 4,
Pulp & Paper Industry, 71 Columbia St.,
Seattle 4, Wash.

WANTED—Lidensed Steam Engineer,
one familiar with the firing of sawmill
refuse and one capable of supervising
maintenance and operation. Apply in
own hand writing stating experience,
references and salary wanted. Box No. 8,
Pulp & Paper Industry, 71 Columbia
St., Seattle 4, Wash.

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Eastwood
Twill
Weave
Wires

WITH
CONTROLLED
SHOOT

EASTWOOD-
NEALLEY
CORPORATION

AT BELLEVILLE, N. J. SINCE 1877

118 NEW CUSTOMERS Every Week!

• More and more people
are enjoying the benefits
of Puget Power's low rates
(the average rate for
homes is less than in TVA
territory). Last year Puget
Power added 6,147 new
customers to its lines...
118 for each week. Within
the limitations of Federal
wartime regulations, Puget
Power built 504 line exten-
sions in 1944. 100% rural
electrification is our goal!

FRANK McLAUGHLIN,
President

PUGET POWER

